

Entrepreneurial Success Factor: A systematic approach to entrepreneur evaluation

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ABSTRACT

As the necessary technology and methodologies become much more accessible every day, barriers to entry to become an entrepreneur keep decreasing. However total investment funds raised by venture capital firms every year stays at the same level, and therefore it is now more critical to use this money wisely and invest in entrepreneurs that are bound to success.

This thesis tries to shed light on the entrepreneur evaluation process that can sometimes be equally important to market due diligence. In this research, correlation between entrepreneur characteristics and the level of success of the firms that they founded are explored in detail. Moreover, this research also looks from another point of view by providing interviews with the venture capitalists in the Boston area.

From the initial stages, main aim was to conclude this research with practical advises. As a result, a scorecard and an Excel sheet are provided for investors that can be used to determine and track potential entrepreneurs' characteristics. In the end, this thesis also hopes to add a new level of information to the existent literature on the correlation of entrepreneurial characteristics with the success of the startup.

Thesis Supervisor: Howard Anderson

Title: Bill Porter (1967) Distinguished Senior Lecturer of Entrepreneurship

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Chapter 1 – Introduction

Entrepreneurship was part of our economic system long before the term itself emerged. It evolved from century to century, and today we are witnessing a new breed of entrepreneurship. With today's resources and communication technologies, entrepreneurs are flourishing from every continent around the world. During the 20th century, an entrepreneur needed substantial amount of capital in order to create a business, while today it is no longer a barrier for most of the industries. There are numerous types of entrepreneurship ranging from manufacturing to social; but possibly the real battle for success is between technology based startups.

Number of entrepreneurs in US keeps increasing, and they are all after a big pie in the technology industry¹. However, as so-called Series A crunch shows how it is become harder to get funded to jump to next level. Increase in seed stage and angel funds helped these potential entrepreneurs to fulfill their dreams, until they are unable to raise a Series A. Is it because these firms failed to deliver their promises, or was it obvious that they were going to fail but even then investors funded these entrepreneurs because they lacked the necessary tools to evaluate market and the team?

A similar battle for success takes place between venture capital firms. Since the crash in 2008, total amount of capital raised by venture capital firms never surpassed \$25 billion mark, although it increased by 10% in 2012, to a value of \$20.6 billion². On the other hand, this increase does not symbolize the increase in the number of VC firms; there is a 3% decrease in the number of funds, meaning that large firms started to raise larger funds. There is a segregation of venture firms; one group is getting close to the seed and early stage investment in a specific industry, while another group is getting close to larger investments in later rounds. However, the battle for talent continues; especially for small and mid-sized venture capital firms.

¹ Global Entrepreneurship Monitor: http://www.babson.edu/Academics/centers/blank-center/global-research/gem/Documents/GEM_US_2011_Report.pdf

² Thomson Reuters Press Release: [http://thomsonreuters.com/content/press_room/financial/2013_01_07_capital_funds_raised_\\$20.6bn_during_2012](http://thomsonreuters.com/content/press_room/financial/2013_01_07_capital_funds_raised_$20.6bn_during_2012)

1.1. Motivation

Main motivation behind this thesis is trying to understand the relationship between the characteristics of the founding team and its effects on success of the startup. Most importantly if there is a relationship, how can this be used to increase the success rate of the investors, and decrease the amount of wasted capital? Is it possible to quantify team evaluation process that is currently based on pure intuition?

A typical due diligence process that is used in most of the venture capital firms is basically trying to understand the market opportunity, forecast the potential sales, and try to value a company after certain amount of years of the investment. Through this process, venture capitalists talk to industry leaders, friends and colleagues to gather information. Years of experience and quantified methods are used and basically, a lot of effort is put in to determine the potential success of the startup with a very systematic approach. However when it comes to evaluate a team of entrepreneurs, this systematic approach leaves its place to simple human intuition. It is correct that venture capitalists call a lot of people to learn more about these entrepreneurs and their past; however it is almost impossible for a human being to put his biases aside and effectively evaluate a person without a systematic approach; especially after putting so much effort in trying to evaluate the market opportunity. Therefore, this thesis aims to create a quantified process that is also based on intuition which would potentially help investors to make more sound judgments during team evaluations.

The research proceeds in the following manner. Chapter 2, which is the secondary research, is based on literature review, and in-depth analysis of the 37 technology based companies that had successful exits in the last eight years to understand the effect of entrepreneurs' characteristics on the startup success. Chapter 3, which is the primary research, tries to look from venture capitalists' point of view by using the interviews conducted with five venture firms in Boston and Cambridge. Chapter 4 uses the end results of the analysis in the previous two chapters to create a systematic approach to entrepreneur evaluation. A scorecard and an easy to use Excel sheet are provided that incorporates the findings in this thesis. Chapter 5 concludes this thesis by summarizing the findings, and offering potential areas for further analysis.

Chapter 2 – Secondary Research

2.1 Methodology

Initial research is conducted to find out what are the key characteristics that can have an effect on entrepreneurial success. In order to come up with these characteristics, various materials are used including venture capitalist interviews, books, newspaper and magazine articles that are available on the internet, and published journals that are available on MIT Library. Through this process, a detailed analysis is done to also understand why are these characteristics can be important. These characteristics are divided into two groups; extrinsic and intrinsic values. Extrinsic values are the ones that are mostly the facts; values that can easily be gathered without an extensive background research and where there are no arguments if they are correct or not such as age, and education level. Intrinsic values are completely based on intuition, open to different approaches and can be argued upon such as level of passion and ability to attract talent.

2.2 Sample

A sample set of 37 companies and its 95 founders is used to understand the effect of key characteristics that are divided as extrinsic and intrinsic values. These 37 companies include consumer facing internet companies, business-to-business enterprises, software-as-a-service solutions, gaming companies, and social networks. But all are technology based, and had successful exits either through an acquisition or an IPO in the last eight years. All the data about the companies and its founders are gathered using databases and web-sites such as Crunchbase³, SeedTable⁴, AngelList⁵, Bloomberg Businessweek⁶, Wikipedia⁷ and various other resources including NVCA⁸, NEVCA⁹, and Kauffmann Foundation¹⁰. For the cases that

³ Crunchbase: <http://www.crunchbase.com/>

⁴ SeedTable: <http://seedtable.com/>

⁵ AngelList: <https://angel.co/>

⁶ Bloomberg Businessweek: <http://www.businessweek.com>

⁷ Wikipedia: <http://www.wikipedia.org/>

⁸ National Venture Capital Association: <http://www.nvca.org/>

⁹ New England Venture Capital Association: <http://www.newenglandvc.org/>

went through an IPO, initial day of the public offering is used although they may currently have less or more market capitalization. Total amount of capital raised by these companies is approximately \$4.5 billion, and total amount of exit values is \$143 billion which means that on average these companies multiplied the initial value by 31.4 times. This value is referred as capital multiplier in this thesis, where it is equal to exit value over initial total funding raised.

Appendix I through IV shows the relevant information of all these 37 companies including its founders, total amount funding raised, venture firms that were part of these investments, and exit valuations.

2.3 Extrinsic Values

2.3.1 Age

Ideal entrepreneur age is always one of the most argued topics in the entrepreneurial ecosystem and there are numerous published articles on this subject (Gielnik, Zacher, & Frese, 2012). Especially after the successful exits of the companies founded by very young entrepreneurs during the recent years, a common belief started to emerge that claims younger is better.

Before conducting a research on the correlation of age and success, there are a couple of important aspects that should be explored. First of all, it is important to define the boundaries of the industry that one should focus because average age can change from industry to industry. One of the main reasons behind this is that areas such as life sciences may require more domain knowledge that can only be gained through years of training and experience without any shortcuts. Another reason is the potentially biased data set that one can come up with to get the right numbers s/he wants by including companies from different industries.

Second important aspect is that people often overlook the effect of new hires to the company. It is important to acknowledge that founding, scaling and selling a company requires diverse skillsets that most of the times founders do not possess. For example Google is founded by Sergey Brin and Larry Page

¹⁰ Kauffman Foundation: <http://www.kauffman.org/>

at the age of 25, and therefore is an example of successful companies that are founded by 20-somethings. However it would be a mistake to ignore the substantial effect of the appointment of Eric Schmidt as the CEO in 2001 at the age of 46. A similar example can be given from Facebook, where Sheryl Sandberg was appointed as a COO at the age of 38 in 2008 and how everything changed drastically in a positive way.

Third important aspect is the media effect. Almost every publication focuses on the success stories and paints a portrait of optimism. In addition, writing about a world's youngest self-made billionaire will always create more traction. Venture capitalists and angel investors have a similar effect; Paul Graham, infamous founder of Y Combinator, claims that startups should be founded by people aged between 23 and 38¹¹, and Ron Conway say that he would rather invest in 17-18 year-olds¹². Although it may be true, these interviews and articles tend to limit our vision to look at the bigger picture rather than the outliers.

There are a couple of trustworthy institutions including Founder Institute that tries to shed light on entrepreneurial DNA¹³; essential characteristics that leads to success. What is special about Founder Institute is that every founder who applies to be part of this program goes through an aptitude test and they have already gathered more than 15,000 entries. Their recent infographic claims that successful entrepreneurs are most likely over 28 years old, and the chances increase if the founders are 34 years old and have management experience with related domain knowledge.

In order to understand whether there is a common age for successful entrepreneurs, 37 companies that had remarkable exits either through an acquisition or an IPO in the last eight years were investigated. Average age is 29.35 and median is 30, and it is also important to add that the youngest founder is 19 years old whereas the oldest is 44.

Following histogram shows the age frequency of the founders in those 37 companies.

¹¹ Paul Graham, 'Start': <http://www.paulgraham.com/start.html>

¹² Ron Conway: <http://thenextweb.com/entrepreneur/2011/05/23/ron-conway-17-18-year-olds-are-best-entrepreneurs-to-invest-in/>

¹³ Founder Institute, Entrepreneurial DNA: <http://mashable.com/2013/02/11/entrepreneur-test/>

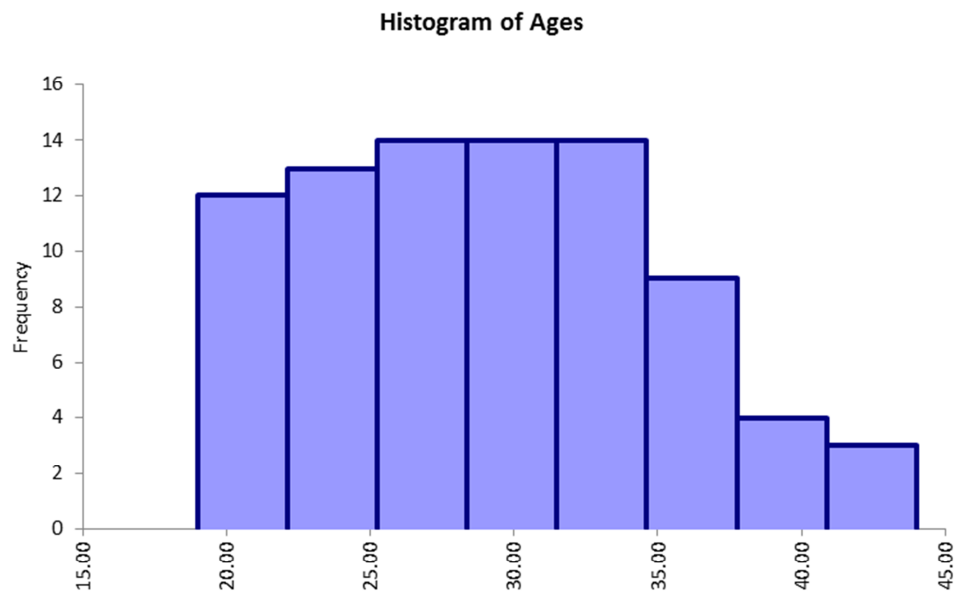


Figure 1: Age Histogram

As it can be seen, the distribution is skewed to the right and there is a substantial decrease after the age of 34. In addition to that, there are same number of founders between the age of 26 and 34 where the frequency is the highest. Similarly, a recent research in this area argues that growth rate of the venture is negatively correlated with the age of the founders (Gielnik, Zacher, & Frese, 2012).

Following Box-Whisker graph shows the distribution of the ages from a different perspective.

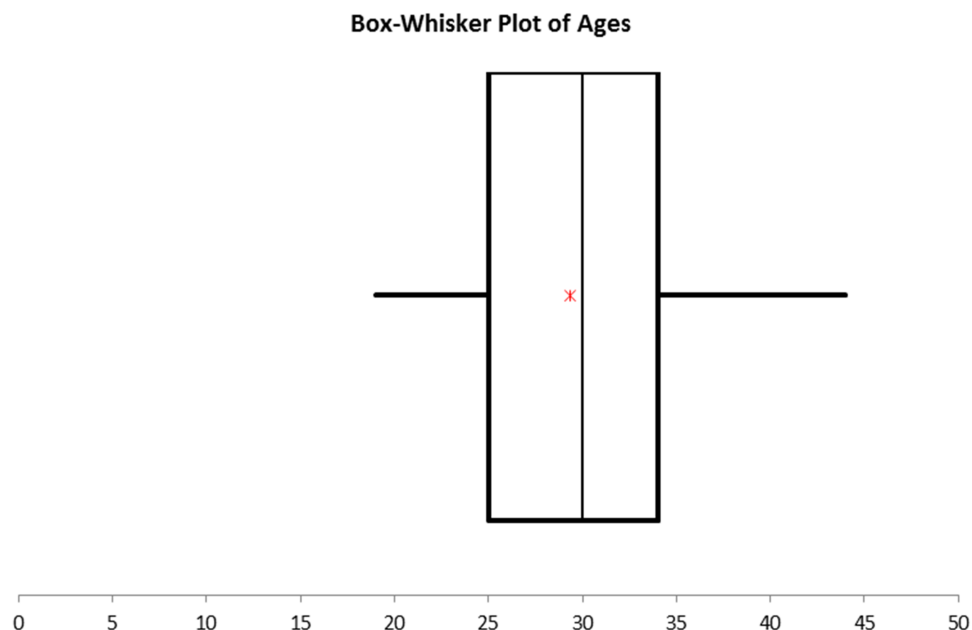


Figure 2: Age Distribution

Again, this graph implies that if you omit the outliers, perfect age to become a successful entrepreneur lies between 26 and 34.

Another interesting fact to look at is the correlation of age with the capital multiplier. Capital multiplier is used instead of exit valuation because initial investments differentiate between the 37 companies.

Following scatterplot is constructed using average age of the founders in each firm with the capital multiplier of those firms where capital multiplier is exit valuation (acquisition price or IPO) over total investments made by VCs or angel investors until the exit.

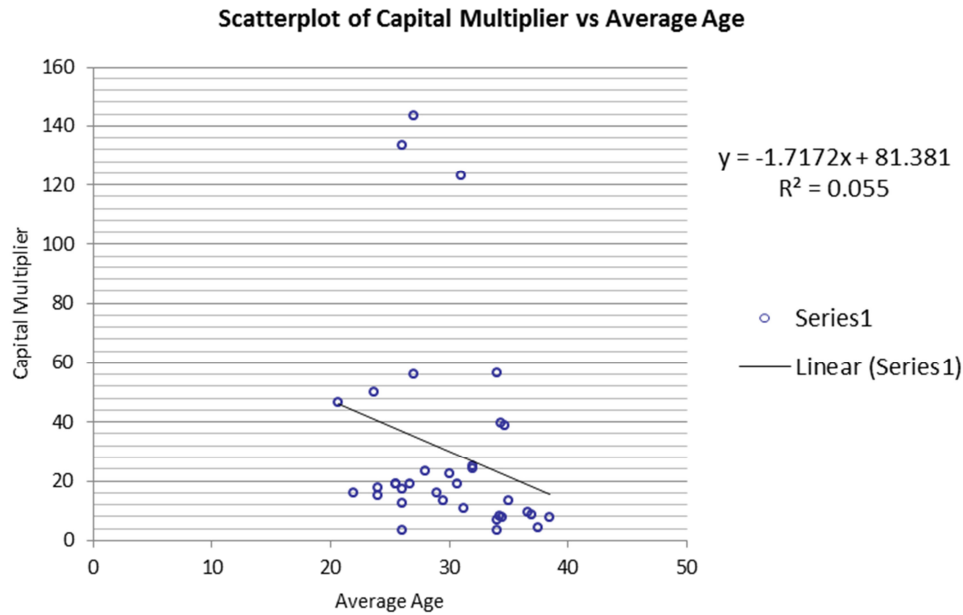


Figure 3: Capital Multiplier versus Average Age

Correlation between these two variables is -0.235, meaning that there is a negative weak correlation. As the average age increases, capital multiplier somewhat decreases and therefore it looks like younger entrepreneurs would bring more profit to their investors, however since the correlation is weak, and it would not be correct to jump to clear cut conclusions.

2.3.2 School and Education

At a theoretical level, there is considerable support for the view that education affects entrepreneurial ability (Barkman, 1994). There are various articles proving this correlation, and also other articles that could not find any correlation at all. Another interesting way to look at this from another point of view as it is introduced by Theodore Schultz. He first defines entrepreneurship as a pervasive activity in a dynamic economy. Then, he argues that the abilities of entrepreneurs to deal with the disequilibria that are pervasive in a dynamic economy are a part of the stock of human capital. He concludes by aggregating results from other research; especially schooling enhances the acquired abilities of the entrepreneurs (Schultz, 1980).

2.3.2.1 Education Level

Similar to the common belief of young entrepreneurs being more successful, there is a belief that dropping out of college may lead to success as well. It is mostly because of the known figures such as Bill Gates, Steve Jobs and Mark Zuckerberg becoming the leaders in their own area although they didn't graduated from college. Media also plays a huge roll, as it tends to focus on people without college degrees because it would attract more attention. Not only that, young students are almost encouraged to defer their education if they have an idea for a company. Some of the investors call this having a dedication and passion to realize the idea and it may actually help these entrepreneurs to get funded or at least accepted to an accelerator.

Connected to this belief, people assume that acquiring an advanced degree is not important for an entrepreneur and it is mostly a waste of time and money¹⁴. Moreover, entrepreneurs are suggested to forget about what they have learned during their MBA degree, because starting a company requires completely different skillsets¹⁵.

It is of course important to define the industry borders again, considering that founding a life sciences company possibly requires a higher degree of education while consumer facing internet companies where services or products are mostly consumed through the internet may not require a similar level of education.

Following table is a summary of education levels of the founders that had successful exits in the last seven years.

¹⁴ Boston.com, 'An MBA is a complete waste of time and money for anyone who wants to create or join a startup': <http://www.boston.com/business/innovation/blogs/inside-the-hive/2013/02/21/mba-complete-waste-time-and-money-for-anyone-who-wants-create-join-startup/05mdo5uyjAF6TJtGwaW2JK/blog.html>

¹⁵ The Wall Street Journal, 'Why I don't advise startups to hire MBA's': <http://blogs.wsj.com/accelerators/2013/04/01/vivek-wadhwa-why-i-no-longer-advise-startups-to-hire-m-b-a-s/>

Number of companies	37
Number of founders	95
% of Founders with Advanced Degree	31.6%
% of Founders with Engineering Bachelor	57.9%
% of Founders who never attended a college or dropped-out	6.3%

Table 1: Education Levels

There are two interesting results of this analysis. First of all, even though these companies are internet based, only 58% of the founders had an engineering degree. Second, only 6.3% of the founders did not have any kind of degree, meaning that education seems to be important in entrepreneurial success in one way or another. In order to understand the effect of acquiring an advanced degree on the success of the startups, following graph compares the companies which had at least one founder with a Master's degree or above with the companies without any founders with an advanced degree. Average capital multiplier is used to compare where '1' is the companies with at least one founder with an advanced degree and '0' is the companies that do not have any founders with an advanced degree.

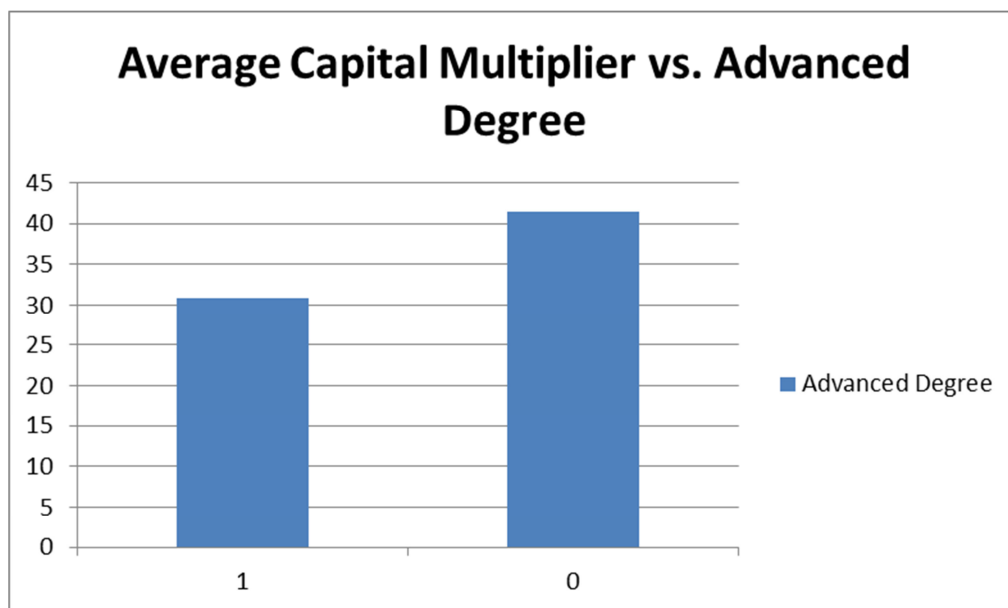


Figure 4: Effect of Advanced Degree

Interestingly, companies with founders who had Master's or above tend to bring less profit to their investors. Basically, it is exactly the opposite of what one expects. This might show that work or startup experience can be more valuable than an advanced degree. Or maybe acquiring an advanced degree helps a company to succeed but does not have an effect on the magnitude of the success. Another interesting fact is that approximately 70% of 37 companies have at least one founder with an advanced degree.

2.3.2.2 School

Is there a difference between graduating from a West or East Coast college in terms of potential startup success in the future? According to Bryan Schreier, a venture capitalist at Sequoia Capital, 41% of the students that study computer science at Stanford University want to work for a startup after graduation, while at Harvard University and other East Coast schools this number decreases to 14%¹⁶. Of course, desire to start a company and working for one is different and also college students tend to change their mind about their future a lot. However these type of statistics are generally used to show that the ecosystem in Silicon Valley is so strong that it creates a culture of being part of a startup while in East Coast, for example in Boston or New York, consulting and finance firms have the upper hand.

Following table shows the distribution of the number of diplomas according to the location of schools under four Census Bureau-designated areas, and aggregates all the international schools into one group.

Location	No. of Diplomas	Percentage
Northeast	38	35%
Midwest	24	22%
South	7	6%
West	18	17%
International	22	20%
Sum	109	1

Table 2: Degree Distribution with respect to School Location

¹⁶ Bryan Schreier, East Coast versus West Coast: <http://techcrunch.com/2013/02/15/east-coast-vs-west-coast/>

Contrary to common belief, number of diplomas acquired from the West Coast universities is half the number of diplomas acquired from the East Coast universities. There may be three explanations to this phenomenon. First of all it might only mean that specifically in this type of industry East Coast is stronger than West Coast. However that is interesting considering that Silicon Valley supposedly has more talented engineers experienced in consumer facing technologies. On the other hand number of enterprise businesses may also have an effect on this result. Last but not least, this research focuses on highly valued exits and if the borders of this data set extended to the lower valued exits as well, the results might change; maybe the magnitudes of the exits are higher in the Northeast. However that is not in the scope of this thesis.

2.3.3 Family Background

There are different aspects that branch out from the family background. First of all, every child learns most of his/her values, expectations, and boundaries from their parents. Although as a child, as you grow up you are affected by different people and experiences, values that are hardwired to your brain tend to stay with you.

Another way of thinking about family background is the financial capability of the family while the child grew up. There are no clear cut rules where if you are born into wealth you have to be spoiled or vice versa. However it is important to point out that 65% of the Forbes most wealthy individual list came from almost nothing. A combination of good family values with hunger to succeed may be the reason behind this phenomenon but this topic is out of the scope of this research.

Immigration is one of the key variables in entrepreneurial success in US. Third try to pass the Startup Act also implies the importance of this subject. However it is crucial to separate immigrants into different groups. First generation immigrants can be different from second generation immigrants. In the end there is a common pattern in US where immigrants are likely to found new companies almost twice the rate of

Americans¹⁷. It is also not a coincidence that 40% of Fortune 500 companies are founded by first or second generation immigrants¹⁸.

Last but not least, having an entrepreneurial parent may work as well. Successful entrepreneurs are more likely to have been raised by entrepreneurial parents (Duchesneau & Gartner, 1990).

2.3.4 First Time/Serial Entrepreneur and Work/Startup Experience

Another intriguing question is that does the success rate dramatically changes between first time and serial entrepreneurs. If that is the case, what are the reasons behind it?

There are roughly three types of first time entrepreneurs. One group is just graduated from college or on their way to graduation. They do not have any work experience other than summer internships. Second group worked after graduation in a large corporation or in a company that is not recently founded. Third group worked after graduation in a start-up, not as a founder but as an employee. Main difference between these groups is the experience that may be required to start a successful business. People in the first group sometimes find it hard to get funded for their idea, especially if the product or service does not have any traction yet or non-existent. People in the second group have a tendency to find it hard to understand the major differences between an established company and a startup. Last but not least, people in the third group did not feel the pressure nor have the knowledge of finding an idea, getting funded, growing the company etc. although they have working experience at a startup.

Common understanding of the term `serial entrepreneur` is that the word `serial` is sometimes used for people who have succeeded before; but for the purpose of this research, a serial entrepreneur is the person who founded -not worked at- a startup before regardless if it was a success or a failure. There is a belief that these people have already seen the ups and downs of starting a company and hopefully are smart

¹⁷ CNN Money, Immigrant Entrepreneurs: <http://money.cnn.com/2012/05/07/smallbusiness/immigration-entrepreneurs/index.htm>

¹⁸ Forbes, Immigrant Entrepreneurs: <http://www.forbes.com/sites/stuartanderson/2011/06/19/40-percent-of-fortune-500-companies-founded-by-immigrants-or-their-children/>

enough to learn from their mistakes and become more successful this time¹⁹. Of course there are other research claiming otherwise; serial entrepreneurs do not learn from their mistakes and trust in themselves much more than they should be²⁰.

To understand if there is a substantial difference between first time and serial entrepreneurs as well as the effects of startup experience, 37 companies were looked into and work experience of each founder is used. Following table is a snapshot of this analysis followed by effect of these experiences on capital multiplier.

Number of companies	37
Number of founders	95
% of Founders with Previous Startup Experience (as a Founder)	53.7%
% of Founders with Previous Work Experience	78.9%
% of Companies with Founders with Previous Start-Up Experience (as a Founder)	69.4%
% of Companies with Founders with Previous Work Experience	94.4%

Table 3: Previous Work and Startup Experience

It is interesting to see that almost 95% of the companies had at least one founder with work experience, and may show that work experience is very important for successful exits, especially compared to an advanced degree. About 70% of the companies had at least one founder with startup experience, showing that it is very valuable for success and also for the funding process. The results are also parallel with other research; successful entrepreneurs are more likely to have had a broader business and more prior startup experience (Duchesneau & Gartner, 1990).

¹⁹ Forbes, Serial entrepreneurs are more successful: <http://www.forbes.com/sites/patrickhull/2012/12/12/serial-entrepreneurs-are-more-successful/>

²⁰ HBR, 'Why serial entrepreneurs don't learn from failure': <http://hbr.org/2011/04/why-serial-entrepreneurs-dont-learn-from-failure/ar/1>

Following graphs show the effect of these two types of experiences on capital multiplier where '1' represents companies with at least one founder with work experience for the first graph, and at least one founder with startup experience for the second graph. '0' represents the founders with lack of work and startup experience respectively.

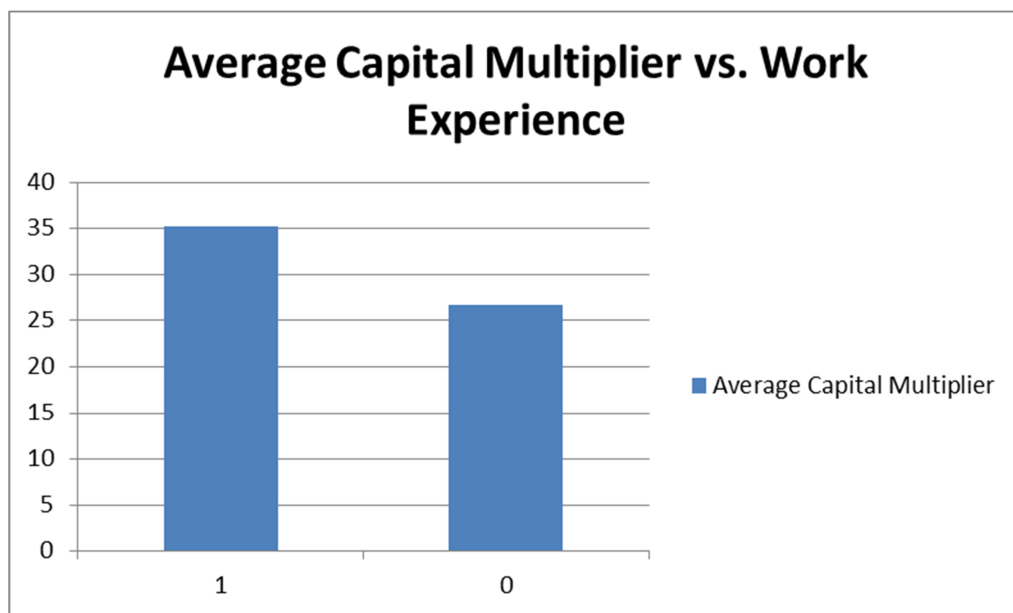


Figure 5: Average Capital Multiplier versus Work Experience

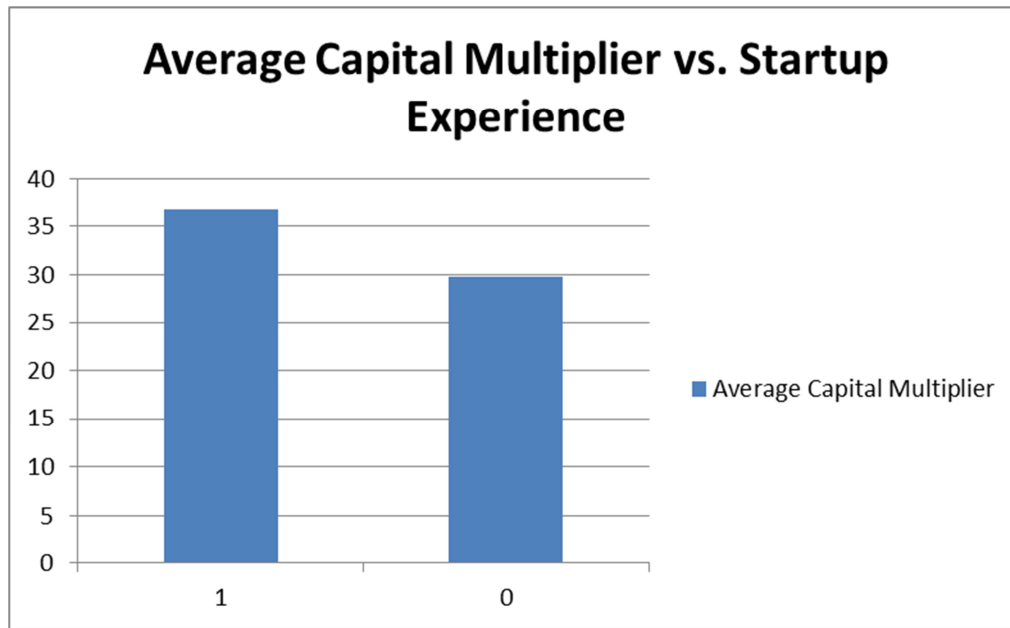


Figure 6: Average Capital Multiplier versus Startup Experience

As expected, having a founder with work experience and/or startup experience definitely brings more profit to the investors. This might also explain why founders with an advanced degree bring less profit. The change in capital multiplier is higher in the second graph, meaning that startup experience may be more important than the work experience.

2.3.5 Single Founder versus Multiple Founders

Especially for the consumer facing internet startups, as the technology required to start a company became much more accessible, and as the concepts such as lean startup methodology became well-known, the time and money required to implement one's idea is now less costly. Therefore sometimes it might be enough for a single founder to start a company. However it does not necessarily mean that it is a good idea to start a company alone.

First of all, if there is more than one founder, there is no guarantee that skills of the co-founders are complementary. Having the same type of co-founders both skill wise and personality wise might even

harm the future of the company for multiple reasons; including lack of different perspectives, problems with equity distribution, inability to handle different parts of the business and so on. Although this not in the scope of this research, it is important to differentiate between an efficient combination of founders with inefficient ones.

On a psychological level, founding a startup requires too much time and increase the accumulation of stress. Therefore one might feel very alone during this process; having a team of founders ease up this process especially during an adverse situation.

Following graphs compare the number of founders in the 37 companies that had successful exits and try to understand if being a single founder is a handicap. First, a general summary is presented in a table showing the average number of founders in these companies. Second, a scatterplot is used to determine if there is a correlation between numbers of founders with the capital multiplier. Last but not least, a histogram is used to look at the frequencies and try to determine if there are an ideal number of founders for a company to be successful.

Number of companies	37
Number of founders	95
Number of founders per startup	2.57
Minimum number of founders in a startup	1
Maximum number of founders in a startup	6

Table 4: Number of Founders

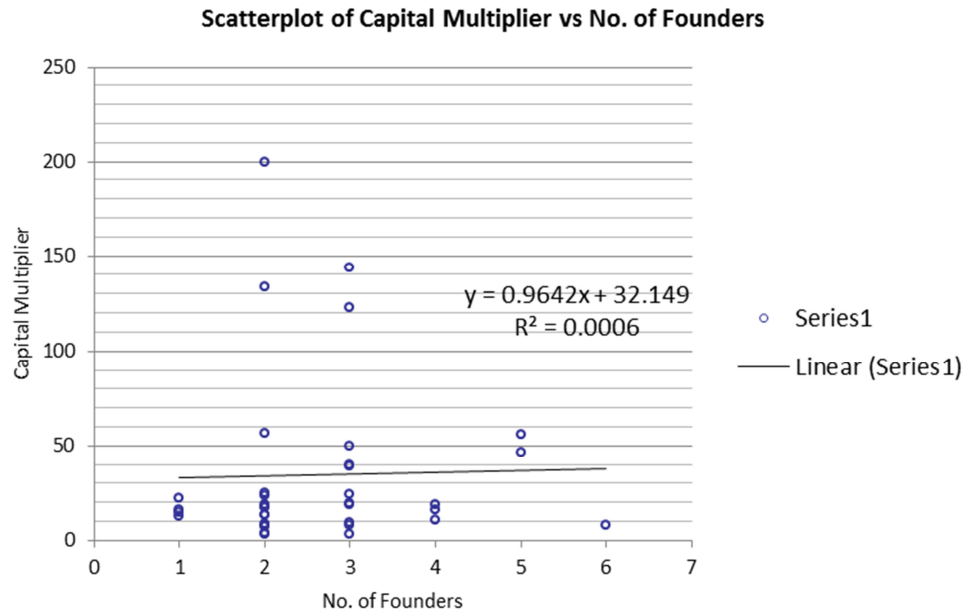


Figure 7: Scatterplot - Capital Multiplier versus Number of Founders

Correlation between capital multiplier and number of founders is 0.0025, which means there is virtually no correlation, not even weakly. This implies that if the number of founders increases, profit these companies bring to their investors would not increase with same pace, and may even decrease. Therefore, following histogram looks at the frequencies to understand if the average number of founders per startup, which is 2.57, is an ideal number.

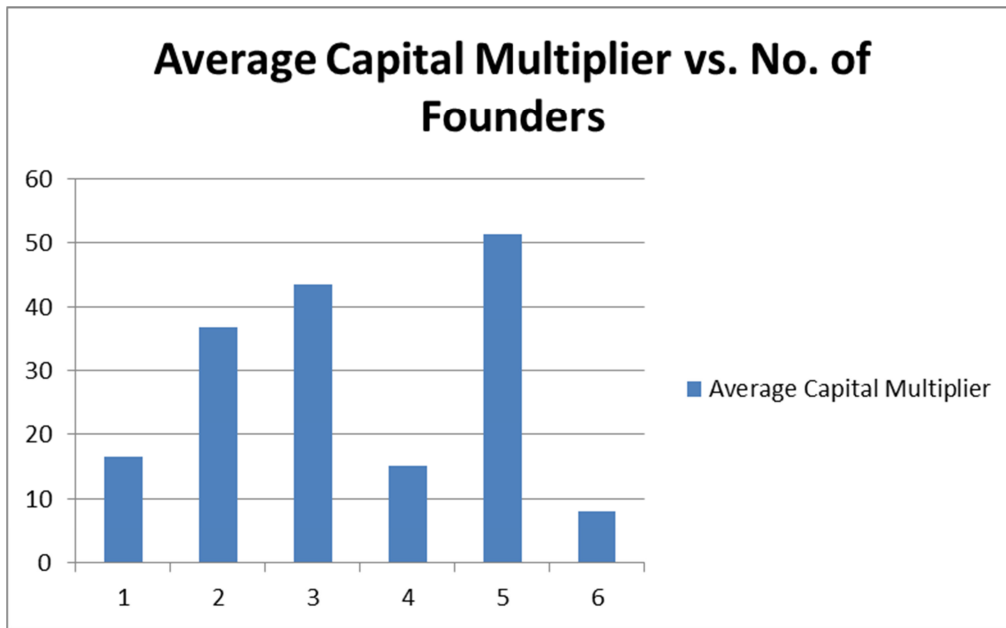


Figure 8: Histogram - Average Capital Multiplier versus Number of Founders

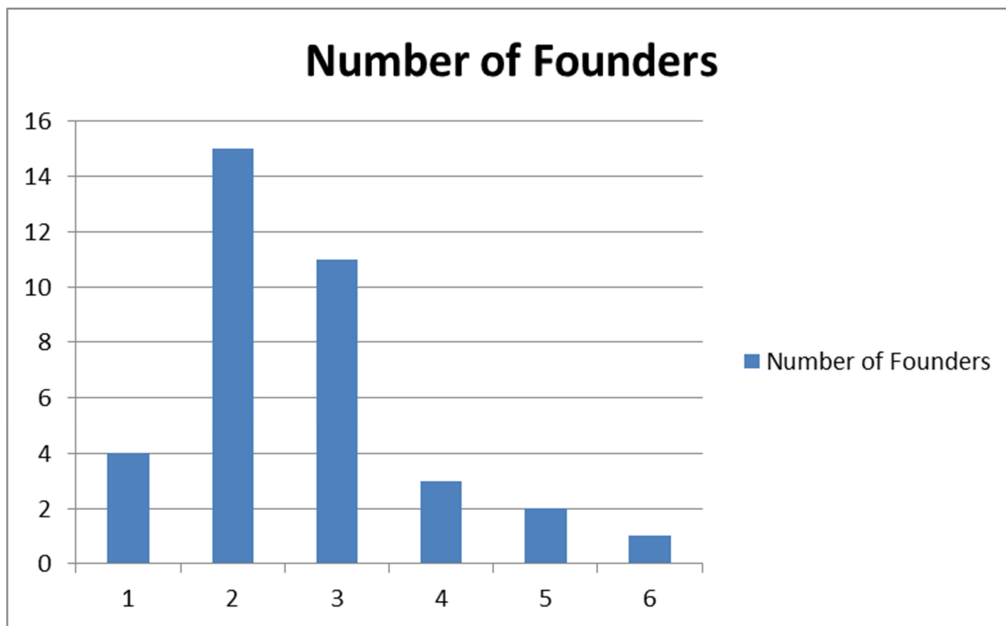


Figure 9: Histogram - Number of Founders

First of all, it is easy to say that companies with 2 or 3 co-founders are very common in companies that had successful exits. Second, first graph shows that having more than one founder returns much higher returns to the investors in almost all of the cases. It is hard to say that if having 5 or especially 6 founders is efficient or not, because the sample set includes only a total of three examples. However, overall it does not change the fact that companies with 2 or 3 co-founders are more successful.

2.3.6 Domain Knowledge

There are different ways to get domain knowledge; school, internships and work experience, the last being the most important one according to the results of this thesis. Importance of having domain knowledge can differ from industry to industry. For a life sciences based startup, it is more obvious that certain domain knowledge is a must. It may not be the case for an internet startup, considering that there are people who made it without that knowledge. However possessing a certain level of domain knowledge is always a plus for both the success of the company and getting funded; interviews in chapter 3 show similar results.

2.4 Intrinsic Values

2.4.1 Passion

After conducting both primary and secondary research, probably one of the most used word for describing successful entrepreneurs is 'passionate'. Sometimes it is not very obvious what is meant by 'passion', and most of the time different people use it for different reasons. Therefore this research tries to look at from all of the angles to explain what passion is, and to show both the advantage and disadvantage of being passionate.

Tsun-yan Hsieh, founder of LinHart group, and co-author of 'Heart, Smarts, Guts and Luck', tries to summarize 'Heart', one of the concepts that the authors created in the book, which is the combination of passion, purpose, sacrifice, work ethic and nuance; 'We care enough to put aside other things to devote

ourselves indefinitely to our dream.` (Tjan, Harrington, & Hsieh, 2012). It is one of the best quotes that can explain passion in a single sentence.

Passion is not equal to being confident in becoming successful no matter what. It is not something that can be learned or acquired, regardless of how hard you try. On the positive side, every single human being has passion for something. It depends on the person to find that passion, and combine it with the other characteristics that are explained in this research. In the end, it is that person's job to decide if that passion can be fulfilled through starting a business, or doing something else. For example, changing the world for good can be done by spending your life in Africa to prevent AIDS, or trying to purify water resources. On the other hand, it can also be done by starting a company that manufactures the necessary equipment to purify the water resources. Means are different, results are the same. To summarize, starting a company is not the only way to fulfill your passion.

There are both advantages and disadvantages of being passionate. First and foremost, it is one of the must-haves to get funded for most of the investors. Second, passion and ability to communicate that passion (connected to leadership) is the best way to attract talent, to unify the employees to work for a common goal, and most importantly when things are not going well (and everyone can assure you that it will not go well at some point) passion becomes the backbone of the company.

On the other hand, being blindly passionate can hurt both the entrepreneur and the company²¹. When things are not going well, it is crucial to understand the underlying reason. An entrepreneur should not mix being passionate with over-confidence, stubbornness, and believing that only his/her ideas are correct. Therefore passion is not the single characteristic that makes or breaks start-ups, although it is the energy source that makes the founder and the company to keep going. Other characteristics balancing the negative effects such as intellectual honesty are also analyzed in the following sections.

²¹ HBR, The Danger of Entrepreneurial Passion: http://blogs.hbr.org/cs/2010/01/the_danger_of_entrepreneurial.html

2.4.2 IQ/Smarts

While trying to determine the characteristics that should be important for becoming a successful entrepreneur, it was not very easy to differentiate between different types of smartness. Therefore it is concluded that all of these types except IQ are connected to different characteristics analyzed in this research. The term IQ here is used to define intellectual ability of understanding, reasoning, communicating and solving problems²². It is loosely connected to IQ test in the sense that here IQ is not a number (and therefore IQ is under the intrinsic values section in this research); however the underlying abilities are the same.

It is easy to assume that high IQ levels are crucial for becoming successful in life in general. However what is important for us in this research is that if there is a strong positive correlation between the IQ levels and the degree of success in a start-up. Although there is no hard evidence that can be used to test this proposition, general belief in investor ecosystems is that although there is a minimum IQ required, having very high IQ is not a determinant of success. It is believed that if a person is standing in front of the investors, this person have already passed different IQ screenings all of his life and was able to come here.

In the recent Entrepreneurial DNA report of the Founder Institute, there are similar results²³. Analyzing the results of the test that are taken by 15000+ people, they found out that there is definitely no correlation between the IQ and the success of the company. However the same report concludes that logical and abstract thinking combined with pattern recognition is one of the essential skills of a successful founder.

To summarize, even if it was legal to give IQ tests before funding or hiring, results would be almost meaningless. It could only eliminate very few people who are below average, and could not determine if a person with intelligence quotient of 130 would be more successful than a person with 100. As Mike

²² IQ Test: <http://www.iqtest.com/whatisaniqscore.html>

²³ Founder Institute, Entrepreneur Test: <http://mashable.com/2013/02/11/entrepreneur-test/>

Hodges, managing director at ATA Ventures says, 'Sometimes it isn't the smartest guy that wins, it is the guy with the best vision in a newly emerging market and somebody who has the passion to work twenty-four hours a day, seven days a week at little or no pay to make this thing work.' (Shah, 2011).

2.4.3 Intellectual Honesty

In this research, intellectual honesty is defined in a broader way compared to its actual meaning. Intellectual honesty has two components; self-awareness, and being ready to change, learn and flex one's boundaries consciously. Self-awareness is analyzed in more detail in the following sections; however it can be defined as being aware of your strengths and weaknesses.

In order to be intellectually honest, first an entrepreneur has to put away all of his biases away before taking action against an event. However being self-aware and consciously filtering one's own thoughts is not enough. There has to be a conscious way of trying to find a solution to your weakness. It can be hiring an MBA graduate if you know that you are not a good business person. Another example can be answering honestly to the questions of the investors during a fundraising meeting, and being able to say 'I do not know the answer' (Shah, 2011). In a time of crisis, not blaming others but trying to find what you did wrong as an entrepreneur and how you can fix it and most importantly being honest to your employees and investors not just only when things are going well. Being honest with one's self and others is the first step of becoming intellectually honest and potentially becoming successful.

2.4.4 Risk Tolerance

One can argue that taking risks is in the nature of entrepreneurship; Merriam-Webster defines an entrepreneur as a person who organizes, manages, and assumes the risks of a business or an enterprise. There is a very thin line however, between willingness to take risks more than an average person and being more tolerant to risk than an average person. First of all, being risk-tolerant doesn't necessarily mean taking risks. It mostly means that ability to cope with risk and its byproducts such as stress. In other words, it is a form of perseverance. On the other hand lack of self-awareness and self-control on top of

willingness to take risks is very similar to being blindly passionate, and can result in devastating effects to the company.

Another way to define risk tolerance is the entrepreneur's ability to take meaningful action without a clouded judgment. It is a crucial characteristic in the sense that it is almost guaranteed that an entrepreneur will face these types of situations every single day, and only people with risk tolerance can survive.

2.4.5 Purpose

As George Zachary, General Partner at Charles River Ventures says 'I think a lot of people want to feel a sense of purpose in their lives' (Shah, 2011). Purpose has two important dimensions in entrepreneurial context. First of all, purpose is what makes an entrepreneur's passion come to reality; it is like a roadmap that guides the entrepreneur to fulfill his/her passion. Founder's purpose becomes the company's purpose, which is the backbone of a successful company. It is very important for every employee to know this purpose while doing their job because as an entrepreneur you cannot and should not micromanage every single decision made in the company. It is those decisions that makes or breaks a startup. Second, without purpose, it is almost impossible to attract talent. While being passionate definitely helps in hiring the best talent, it is also important to understand George Zachary's quote; everybody is looking for his/her purpose in life. As an entrepreneur, you have to find a way to fulfill this purpose to attract the best talent.

2.4.6 Ability to Attract Talent

Attracting talent is crucial for every single company regardless of which stage they are at. However while Microsoft can afford to hire couple of bad apples, startups do not have that luxury because their time and money are much more precious. More importantly, founders are just the beginning, while new talents are the future of the company if there is any. There is a reason why investors try to find entrepreneurs with that ability. An investor can provide entrepreneur with money, management expertise, network, and C-level executives; however it is the founder's job to hire talented people that are also aligned with the

startup's culture and purpose. It is also why a lot of investors prefer not to invest in single founders; they believe that if a founder cannot use his passion and purpose to attract a co-founder that would go to this war with him, how is he going to be successful? It is not always the case of course, and there are examples of single founders being funded or getting successful. But it is important for every entrepreneur to keep this in mind.

This research defines ability to attract talent as having the required passion and purpose, but also having the ability to communicate and share that with people and make them believe in your mission. Although ability to retain talent is almost equally important, it requires a different skill set, and other forces come into play. A completely different research on the requirements and methods for retaining talent is necessary and it is not in the scope of this thesis.

2.4.7 Authenticity/Uniqueness

It is probably the hardest characteristic to define and also hardest to evaluate for the investor. It is completely intuitive, and there are no direct questions to ask in order to find about if an entrepreneur is authentic or not. Abraham Maslow, a psychologist who is famous for his self-actualizing works, defines authenticity as 'the reduction of phoniness toward the zero point'²⁴. With respect to this research, authenticity can also be defined as a combination of self-awareness, being honest about your passion and purpose – to both yourself and others- and having a distinct way of management style. Here having a distinct way of management style means an entrepreneur that has the ability to go beyond the norms that are taught by universities. A similar characteristic called nuance is introduced by the authors of Hearts, Smarts, Guts and Luck, defining it as 'subtle, barely discernible differences that are virtually impossible to see, but that can be disproportionately felt' (Tjan, Harrington, & Hsieh, 2012). In the end, authenticity may not have any effect on success, but it may very well affect the magnitude of the success.

²⁴ Abraham Maslow and Authenticity: <http://www.hailir.com/30947.php>

2.4.8 Leadership

It is always important to state the difference between management and leadership, and retired HBS professor John Kotter is very good at differentiating these two skills; 'Management is about coping with complexity. Leadership, by contrast, is about coping with change' (Kotter, 1990). There are a lot of different aspects of leadership as well as different styles. A startup may require different types of leadership through its lifetime; however this research focuses on the initial growing stage, and the leadership requirements that go with it.

The 4 Capabilities Leadership Framework²⁵, which is also the core of leadership education at MIT Sloan, defines four capabilities that a leader should be good at in order to be successful; sense-making, relating, visioning, inventing. This framework can be summarized in the following way; a leader should have the ability to understand the systems that we live in, use this knowledge and analyze it to vision the future, while communicating this vision by creating meaningful relationships in work place, and keep inventing new methods to make sure that the vision is understood and everyone in the firm strives to achieve that. Of course every person can be better at different capability while lacking at another; there is no perfect leader, however there is a threshold.

Daniel Goleman, the author of Emotional Intelligence, in one of his papers published from HBS Review, tries to understand what characteristics are crucial for a person to become a good leader (Goleman, 1998). After a long research period, he finds that having high levels of emotional intelligence is at least two times more important than having high IQ and impressive technical skills. He defines emotional intelligence at work with five main components; self-awareness, self-regulation, motivation, empathy and social skill. Definitions of individual components are very parallel with the characteristics this research introduces, especially self-awareness and motivation. As a result, it can be concluded that different characteristics in this thesis have effects on each other and therefore just looking at these individually can trick the investor; collectivity is important. He also argues that emotional intelligence gets better with age,

²⁵ MIT Sloan, 4-CAP: <http://mitleadership.mit.edu/r-dlm.php>

and is a firm believer that it can be taught, although it should take quite some time and effort. At the beginning of his paper, he claims 'Different situations call for different types of leadership. Most mergers need a sensitive negotiator at the helm, whereas many turnarounds require a more forceful authority' (Goleman, 1998).

Roderick Kramer, the William R. Kimball Professor of Organizational Behavior at Stanford Graduate School of Business, agrees with the statement that different situations require different types of leaders. However he introduces a new concept, 'political intelligence', and claims that it is a very powerful leadership skill, and sometimes more important than having social intelligence. He states that ' While leaders with social intelligence use empathy and soft power to build bridges, politically intelligent leaders use intimidation and hard power to exploit the anxieties and vulnerabilities they detect' (Kramer, 2006), and gives Steve Jobs as an example of this leadership technique. However thinking about Steve Jobs' failure during the early Apple days, one can argue that a startup does not need a leader with political intelligence.

This thesis however concludes that entrepreneurs should be socially intelligent to start a successful company, but it also agrees that in the later stages, the startup may require a different way of leadership. Similarly, Steve Jobs was very successful in the second round at Apple because at the time the company was already an established enterprise.

2.4.9 Self-Awareness

This thesis has already mentioned that self-awareness is the backbone of other characteristics such as intellectual honesty and leadership. Therefore as Harry Weller, General Partner at NEA, states 'The lack of self-awareness is the easiest way to get shot down' (Shah, 2011). Self-awareness can be defined as the ability to understand one's strengths, weaknesses, and effects of these on situations and people. To put it differently, a self-aware person will know the results of his actions, know when and how to act, and make intellectual judgments.

For a startup, nothing is guaranteed; anything can go down at any time and it will probably will. However having self-awareness decrease the number of crucial mistakes made in the company, or at the minimum, a self-aware person will be able to understand the reasons behind those mistakes, rather than being scared of being wrong. As John Kotter mentions in his paper (Kotter, 1990), one of the most important aspects of self-awareness is the self-depreciation. He also claims that one of the ways to understand if a person is self-aware or not is to ask him about his previous failures. If he claims responsibility and is able to define the mistakes that he had done, he is definitely self-aware. Blaming others for the failures however would potentially show that this candidate does not have the right material to become a successful entrepreneur.

2.4.10 Optimism

Optimism can be divided into two main parts. One of them is optimism as a trait, where people having that trait tend to look at from the bright side for every aspect of their life regardless of the facts. Second part is about being optimist about certain situations because you lack the necessary information and experience; therefore although you foresee the potential outcomes, you may not grasp the magnitude and the effect of these outcomes. This research calls this second part as entrepreneurial optimism. At first sight, both seem negative characteristics for an entrepreneur; however that is not the case. First type is a very dangerous trait to have for an entrepreneur, because it may lead to postponing problems or having low response times to problems. On the other second type of optimism can be beneficial in certain situations.

First of all, every entrepreneur should be somehow an optimist considering that trying to found a company from scratch is hard work, and being a pessimist doesn't help. Similarly, people tend to become more aware of their surrounding as they become older and have more experience in life, and therefore can be very reluctant to take risks. On the other hand entrepreneurial optimism helps the founders to act bravely in problematic situations, take risks, and more importantly to cope with stress in the long term.

One can argue that having a pessimistic way of thinking may help decreasing the number of problematic situations but although it may be correct, you will also lose a lot of opportunities. Basically entrepreneurial optimism is very important for the initial stages of the startup. It is also important to consider that as time passes founder will have more experience, become older and therefore may lose this trait at some point. But a more established firm would require a different way of thinking and therefore having an entrepreneurial optimism may even be harmful so losing this trait in the long run is not necessarily a problem.

2.4.11 Humility

The effect of having the humility trait is analyzed in this research in two different forms that are related to entrepreneurship. First, it is a trait that fights the complacency that occurs after successful events such as making the first sale, finalizing the first funding round, new office space and other short term successes. It is completely normal to feel successful and happy after these events, however it is completely important keep your feet on the ground and not get distracted away from your final goal. Second form is connected with intellectual honesty, self-awareness, and how your employees see you as a founder. Ability to admit mistakes as a founder is very important and will increase the morale in the workplace; because generally, founders with high levels of humility tend to see themselves as peers to their employees instead of superiors. ZipCar founder Robin Chase is a good example for founders with high levels of humility trait. In one of her interviews (Chase, 2012), she talks about how she admits mistakes openly and how it has a huge effect on collaborative success.

2.5 Conclusion

Chapter 2 tried to identify and explain some of the most important characteristics that are occasionally expressed by different investors. There are a lot of characteristics that are crucial for founding a successful company, and also nice-to-haves that would help the entrepreneur in this long and stressful journey. All of these characteristics are connected at some level, and a number of them have a certain

threshold where entrepreneurs that fail to pass that threshold have very low chance of success. It is important to add that this chapter is the result of secondary research and does not take into account the interview process with the VC's. Chapter 3 will focus on these interviews, and Chapter 4 will incorporate both results to have the final verdict, and create a scorecard and an Excel sheet to help the investors on their evaluation process.

Chapter 3 – An insider look on entrepreneur evaluation: VC interviews

3.1 Introduction

Previous chapter mostly looked at the importance of entrepreneurial characteristics of the founders from the success of their companies. It is equally important to look at from the venture capitalist side for two reasons. First, they are the ones who are constantly in this eco-system, pitched at hundreds of times each year. There is a lack of data on entrepreneurship, and the best way to learn more about it is talking with the investors. Second reason is because all of the companies in the previous chapter received funding at some point in their life cycle. It is important to understand why they were selected to be invested in, and in general what are the criteria for the venture capitalist to invest in a startup, but doesn't even invite another even to a meeting. Market opportunity, idea and the product itself are obviously crucial in this decision process. However investing in the right team can save a lot of trouble and money in the long run as well. This chapter tries to understand what are those criteria for team evaluation and the importance of each criterion over another.

Interviews were made with five investors from five different venture firms in the Boston area. Although the interview had a structured set of questions, the answers are aggregated in to five main groups. Additionally a questionnaire was given to each investor to determine which characteristics are more important.

3.2 Sample Set: VC Firms and Investors

Flagship Ventures – Avak Kahvejian

Flagship Ventures²⁶ was founded in 2000, and currently manages a \$900 million fund and mostly invests in seed and early stage companies. They are organized into two distinct groups; Venture Capital, and VentureLabs. Flagship Venture Capital works as a traditional venture capital firm and makes investments all around the world. VentureLabs on the other hand, combines entrepreneurs, academia and experienced managers to go through a full life cycle of a startup, from conception to exit. It can be described as venture level accelerator, but instead of having EIR, they have full-time entrepreneurs that work in different projects, all the time. Some of their successful exits include Adnexus, BGMedicine, CGI, and TripAdvisor.

Avak Kahvejian is a Partner and Vice President of Development of VentureLabs group. He has operational experience in biomedical space and holds a PHD from McGill University. He is with Flagship Ventures since 2011.

General Catalyst Partners – Bilal Zubeiri

General Catalyst Partners²⁷ was founded in 2000, and makes mostly early-stage investments. Their mission statement is Entrepreneurs Investing in Entrepreneurs. Their recent fund was raised in 2011, and they are currently managing \$500 million from that fund. Some of their most famous investments include AirBnB, BigCommerce, HubSpot, Hunch, ITA Software, Kayak, and Taleo.

Bilal Zubeiri is a Principal at GCP, and mostly focuses on technology based startups, and clean energy. He holds a PHD from MIT in Physical Chemistry. Before joining GCP, he was an entrepreneur, and worked in both consulting and academia.

²⁶ Flagship Ventures: <http://www.flagshipventures.com/>

²⁷ General Catalyst Partners: <http://www.generalcatalyst.com/>

NextView Ventures – David Beisel

NextView Ventures²⁸ is one of the brand new firms in Boston area, raising their initial fund of \$21 million in 2012. They are micro VC firm, focusing only on the seed stage investments that operate mostly on the internet. Even though it is a new firm, they already had two successful exits including acquisition of RentJuice by Zillow for \$40 million. They have 25 companies in their portfolio.

David Beisel is the founding partner of NextView Ventures. Before co-founding NextView Ventures, he was holding the Vice President position at Venrock, and also was an entrepreneur; selling his company to About.com. He has extensive experience in seed and early stage technology-based companies. David holds an MBA from Stanford Graduate School of Business.

Atlas Venture – Dustin Dolginow

Atlas Venture²⁹ was founded in 1986, and focuses mostly on early-stage companies that are either technology or Life Sciences based. Currently, they are managing \$283 million that they raised during 2009. Some of their most famous investments include AngelList, Dailymotion, eGroups, Castle Networks, Firefly Network, Power Integrations and ILOG.

Dustin Dolginow is a Principal in the technology group under Atlas Ventures. He was an investment banker at Lehman Brothers before its collapse, and moved into entrepreneurship and technology scene after that experience. He is one of the most promising Principals in Boston area according to entrepreneurship scene in Boston³⁰.

²⁸ NextView Ventures: <http://nextviewventures.com/>

²⁹ Atlas Venture: <http://www.atlasventure.com/>

³⁰ Dustin Dolginow: <http://www.bizjournals.com/boston/blog/startups/2012/01/dustin-dolginow-atlas-venture-principal.html>

BVP³¹ is one of the leaders of the industry, with its roots going back to 1910's. Their current fund is worth \$1.6 billion, and they have investments in 130 companies resulting in a management of \$4 billion. In its 101 years of operations, they have 104 IPO's, 11 of which occurred since 2010. BVP focuses on industries where there are large gaps to disrupt and revolutionize the current way of doing business and therefore invest in various industries and countries. Some of their most famous exits include Gartner, Staples, Skype, LinkedIn, VeriSign, Endeca, and Diapers.com.

Mackey Craven is one of the members of BVP Boston office, focusing on mobile, software and data infrastructure. He earned three degrees from MIT in four years, S.M. in Technology and Policy, S.B. in Biological Engineering, and S.B. in Mathematics. Mackey was also founding editor of MIT Entrepreneurship Review. He is currently part of a group managing the investments in Apperian, Liazon, Twitch, Zapier, and Xtime.

3.3 Interviews

3.3.1 On A-team with a B-plan vs. B-team with an A-plan

Georges Doriot, as known as the Prophet³², one of the first American venture capitalists and founder of INSEAD, once stated 'An A-team with a B-plan is always better than an A-plan with a B-team'³³. This statement is one of the main motivations behind conducting this research, and therefore asking the investors if this statement is valid or not was crucial. Opinions of the investors on this topic are presented below.

³¹ Bessemer Venture Partners: <http://www.bvp.com/>

³² Georges Doriot, The Prophet: <http://www.alumni.hbs.edu/bulletin/2008/june/prophet.html>

³³ Anthony Tjan: <http://blogs.hbr.org/tjan/2012/09/the-most-important-job-intervi.html>

Avak Kahvejian

Avak believes that both parts of the statement are equal, and none of them is better than the other one (Kahvejian, 2013). Because in theory, both can be changed in the short or long run and when you look at the successful companies you would see that change in both teams and plans are inevitable at some point. He also adds that it is obviously harder to change the team compared to changing the plan, but it is doable, especially if the VC has higher percentage of ownership.

Bilal Zubeiri

Bilal stated that every investor should probably say A-team is always better than an A-plan for the reason that good plans are useless if you don't have the necessary team to execute it (Zubeiri, 2013). He also adds that although changing the initial founders would not work, hiring³⁴ new people, especially on the C-level is crucial for startup success. He believes that investors should be the problem solving agent instead of firing the founders immediately.

David Beisel

David stated that he doesn't want to say one is better than the other; both can be successful and unsuccessful (Beisel, 2013). However, since they invest in only seed-stage startups, he says that most of the time there are no products to look at and therefore they try to understand the capability of the team and invest accordingly. Also, considering that most of these startups do not have employees, and therefore firing the founder equals to closing the investment.

Dustin Dolginow

Dustin says that it all depends on the industry and how the end-user consumes the product (Dolginow, 2013). As this research focuses on consumer facing technology companies where products and services

³⁴ BusinessInsider, 'The VC firm that funded Facebook explains how to hire': <http://www.businessinsider.com/the-vc-firm-that-funded-facebook-explains-how-to-hire-2013-2?op=1>

are mostly consumed through the internet, he says that he would prefer an A-team with a B-plan; because as a firm, they believe that best entrepreneurs lead to best markets and therefore when they meet an entrepreneur, they try to play the ignorant role about the market and try to understand the entrepreneur's vision. Dustin also adds that as a firm, they don't like to change the founding team.

Mackey Craven

Mackey believes that an A-team with a B-plan is not always better; although it can be much more valid for the commercial side (Craven, 2013). It is true, he says, that it is easier to change the plan instead of changing the founding team. Mackey also adds however, that they change the founding team if the plan does not work out multiple times, especially if the firm believes that the idea and the product are promising.

3.3.2 On success and failure with respect to team evaluation

There are obviously tens of different reasons why startups fail or succeed. Questions that are asked to the investors are structured to find out these successes and failures that are related to team evaluation process. Of course this research acknowledges that there may be other reasons outside of team evaluation process that had an effect on the faith of the startup. Opinions of the investors on this topic are presented below.

Avak Kahvejian

Avak stated that their creative system in VentureLabs decreases the risks of unsuccessful team evaluation. This is a team-based proactive system, where there are permanent teams of innovators, which is different than accelerators or Entrepreneur-in-Residence. Currently they have 17-18 members including people with experiences in IP, finance, and marketing. Because they select these people from the beginning, they know their weaknesses and strengths already. Avak underlines that fact that they deliberately conjure up, iterate and kill companies. There are broader teams that constantly follow the venture creation in the firm, and they can ask to kill the project. Of course smaller teams have the opportunity to convince these broader teams that their project still have potential. This deliberate act of creating and killing companies

eliminates the dilemma of A-team with a B-plan or B-team with an A-plan, and also the possible Series A crunch.

Avak argues that best entrepreneurs know the opportunity cost of working on a doomed project, and they have the discipline to kill it; sticking to a vision blindly is the opposite of success. When entrepreneurs read about Steve Jobs, Mark Zuckerberg, and Jeff Bezos, they start to think that sticking to your vision will lead you to success. But these entrepreneurs never read or heard the failures that are results of narrow thinking. There are great ideas and markets around and you can change your project.

Bilal Zubeiri

Bilal states that more than once they faced a situation where they invested in an A-team that turned out to have a B-plan. However these teams ended up doing iterations or coming up with completely different ideas, and became successful at the end. On the contrary, he talks about another experience, where he knew he was investing in a team which had weaknesses but their idea and plan were very good. He believed that he could fill the gaps by bringing in new people and sharing knowledge. In the end, it didn't work out, and the project was killed. Bilal says this experience is a good example showing that A-teams are better than A-plans.

David Beisel

David shared his firm's statistics until now, but by also stating that his firm is very new and therefore they might have to wait longer to see the results. He said that they invested in 5 companies, which is about 20% of their portfolio companies that were purely at the idea stage. Four of these companies are doing very good while one of them failed. However David adds that at the end of the day it is a leap of faith.

David also talked about some of the unsuccessful team evaluations they had in the past, which is understandable considering they invest very early, and without seeing any product. During the presentations and funding period, you see one side of the entrepreneur and try to understand if this is

going to work. The side you see is generally the selling capabilities and passion of the entrepreneur, which is of course important, but it is hard to see the other side which is running and scaling a business. Of course as an investor, David adds, you try to do an extensive vetting process to learn more about the entrepreneur. However sometimes it turns out that these entrepreneurs are not very good at the business side of things.

Dustin Dolginow

Dustin gave an example from one of the portfolio companies, Chill.com. He said that when they meet the team around January 2010, they immediately felt that this is an A-team, although they didn't have a product at the moment. Until today, they pivoted two-three times, and changed their business plan four-five times. However Dustin still believes that this team is incredible, and as a firm, they will try to keep investing in them.

When asked about failures connected to team evaluation, Dustin talked about the amount of due diligence that VC firms do before investing. He believes that a longer process of due diligence is nothing more than a defensive mechanism. He adds that it is not efficient to spend a 6-month period for due diligence, and another 6-month period for signing the deal. Moreover, it creates a selection bias where as an investor you can make a wrong decision just because you spent a year of your life on evaluating a particular startup.

Mackey Craven

Mackey started by saying that as a firm, they only invest in teams that either they found themselves, or that are introduced to them by credible friends. Also they invest in one or two companies each year that also decrease the chance of mistakes during the evaluation process, because they are highly selective. However Mackey talked about the mistakes he made while hiring people to the portfolio companies. He adds that one of the companies they had invested in had a B-team but an A-plan, and currently it is probably the most successful company in their portfolio.

3.3.3 On immigrant entrepreneurs

This research already analyzed the effects of immigrants in detail in Chapter 2. In the interview process, the aim is to understand if immigrant entrepreneurs are more successful, or hungrier to be successful and if it is, what are the reasons behinds this phenomenon. Complementary aim is also to understand the view of investors on this subject considering the recent Startup Act 2.0 efforts.

Avak Kahvejian

Avak thinks that even if the immigrant entrepreneurs seem more successful, it should not be a selection criterion. Basically, he believes that their successes are not because of their ethnic identity but because of other characteristics. He wouldn't select a team over another just because they are immigrants. Avak believes serial entrepreneurship for example is much more important than being an immigrant.

Bilal Zubeiri

Bilal started by saying for immigrant entrepreneurs it is not a case of being hungrier for success. However their appetite for risk can sometimes be much higher than American entrepreneurs. First of all, immigrants need sponsorship to work in US, and only a handful of companies do that. Basically Bilal thinks that immigrants have much less alternatives compared to their counterparts. In the end, they have almost nothing to lose by taking larger risks while American entrepreneurs have more at stake with respect to other opportunities they have.

David Beisel

Similar to Avak, David also doesn't believe that investors should not have a selection bias over immigrant entrepreneurs. In their current portfolio, there are three companies founded solely by immigrant entrepreneurs, and until now they are doing very well; however American entrepreneurs are successful as well.

Dustin Dolginow

Dustin takes a different angle on the topic of immigrant entrepreneurs. He believes that in entrepreneurship, the term immigrant should not just mean people who came outside from US. He believes, as a guy who was born in Kansas and currently working in Cambridge, he is also sort of an immigrant. Motivations lying behind these two groups of people are similar; trying to be successful, and establishing a new life in a new place. Dustin also adds that this type of motivation is almost a necessity for entrepreneurship, but on the other hand it is not sufficient. Feeling of critical to succeed, such as OMGPOP's founder Charles Forman³⁵, is very important. In addition, as an entrepreneur you might get successful on your second and third startup and if you do not have the necessary motivation, you will give up after your first startup failure.

Mackey Craven

Mackey started by saying it is a fact that immigrant entrepreneurs have a higher probability of success compared to American entrepreneurs. First of all, most of the time these immigrants have already gone through a screening process, for example university admission processes or green card screening process, which means that they at least have some kind of skill and were able to come into US. Second, most of these immigrants bring their family with them, meaning that they already started their life in US by taking a risk. Mackey believes that their probability of success is higher; however using it a selection criterion may be misleading.

3.3.4 On using algorithms for team evaluation

Importance of gathering data points, analyzing them in depth and writing algorithms to make these analysis possible and using them to come up with possible solutions increases every single day. As the 'big data' became the new buzzword, and the success of data analysis software providers increase, investors started to question if they can come up with a new breed of algorithms, inspired by current

³⁵ Charles Forman: http://articles.businessinsider.com/2012-03-26/tech/31238786_1_zynga-pitch-computer-game

hedge fund and stock market applications, to increase the accuracy of the due diligence process³⁶. These algorithms are mostly used to see the patterns in the market and decide if the idea is worth investing in, if the market opportunity is there, and if the team can handle this startup.

Best example is probably Correlation Venture Partners³⁷, which uses analytics tools, a large database that they gathered over 20 years, and predictive algorithms to see if investing in a particular startup makes sense, and even if it does, what would be the ideal size of the funding. This model helps them move much quicker than other firms, and their claim is that they can decide on an opportunity in just two weeks.

Avak Kahvejian

Avak says that he understands the motivation behind coming up with an algorithm to evaluate a team of entrepreneurs and at some point in the future it can be done. However it should only be used as a guide rather than an ultimate solution. It may be helpful to use it to prevent investors falling victim to their biases, but at the end of the day human touch is essential and should never be removed from the equation.

Bilal Zubeiri

Bilal started by giving an example of one of their companies located in India, which deploys econometrics and algorithms to decide if a bank should give a loan to a team of entrepreneurs or not. However he believes that algorithms can only be helpful to some extent, and best companies wouldn't come out of these type of applications. He questions how an algorithm could have predicted the success of Mark Zuckerberg. In addition, elite VC firms only invest in elite entrepreneurs and companies who have proven something already in their life and therefore these types of algorithms would not be too much beneficial for these elite firms; however maybe smaller firms or individual investors may use it as part of

³⁶ VentureBeat, 'Venture capital picks up the Moneyball strategy: <http://venturebeat.com/2012/11/09/startup-algorithm/>

³⁷ MIT Technology Review, 'An algorithm to pick startup winners': <http://www.technologyreview.com/news/428427/an-algorithm-to-pick-startup-winners/>

their screening process. But at the end of the day, gut feeling will always be more important than predetermined formulas.

David Beisel

David stated that he believes in correlations and it might be possible to come up with an algorithm. However the problem is that firms do not have access to all the deals; this is not a hedge fund where they are available in the public market. As a result there are only a certain number of deals that you have access and can actually invest. For example, one of the partners of NextView Ventures, Rob Go, tried to invest in Groupon at the very beginning, in fact he was the first investor to call founder Andrew Mason. However he couldn't manage to do it with heavier firms entering the picture. So sometimes it is not about having an algorithm or not. David stated that when you look at it, there are three important jobs of a venture capitalist; sourcing, selecting and adding value. He argues the least important one would be selecting because without the necessary sourcing capability, algorithms are meaningless.

Dustin Dolginow

Dustin believes that current algorithms are generally a failure. There are not enough data to create a successful algorithm that would eventually take place of the human intuition. AngelList³⁸ is a good start in the sense of collecting data but it is still not enough. Dustin adds that in their firm, they tried couple of algorithms to look for signs in the recent years, and until now this effort was not very fruitful. However at some point in the future, especially after the accumulation of crucial data, it can work.

Mackey Craven

Similar to Dustin, Mackey also does not believe that there are enough data points to quantify team evaluation process. He adds that investors who are trying to come up with these types of algorithms are focusing on the wrong side of things. There are things that machines are good at and there are instances

³⁸ MIT Technology Review, AngelList: <http://www.technologyreview.com/news/511146/the-social-network-that-really-matters-to-startups/>

where humans are good at. Mackey thinks that in 20 years this may change, but currently it is almost impossible to come up with a working algorithm; current focus should be on finding the right idea instead of focusing on team evaluation.

3.3.5 On current trends and future of VC industry

It might seem irrelevant for this thesis to ask about the trends in venture capital industry; however it is important to understand what are the potential problems or advantages that can be realized in the following years. Because it may show if revolutionizing team evaluation process can help to solve these problems or help smaller firms and individual investors to survive.

This thesis argues that increase in the number of startups raising seed funding, and increasing failures to raise another series after that definitely shows a lack of knowledge and focus on team evaluation and market due diligence. Constructing a better screening process, and also to understand strengths and weaknesses of entrepreneurs would be beneficial for investors and help them make more educated guesses.

Avak Kahvejian

Avak talks about one of the current hot topics, which is Series A crunch³⁹. He states that as the technology evolved, and it became easier to reach necessary resources, it is now easier to create companies which in result create a large group of companies looking for Series A investments. On the other side of the table, venture capitalists became pickier investing in startups because of past failures.

Bilal Zubeiri

Bilal thinks that venture capitalists are now starting to realize that investing in product-focused teams makes much more sense. He also mentions the problem of the increase in the number of entrepreneurs and startups that can raise seed funding easily who doesn't deserve to get Series A funding in the future.

³⁹ TechCrunch, 'The Series A bottleneck grows tighter, Fenwick survey shows':
<http://techcrunch.com/2013/03/25/series-a-bottleneck-fenwick/>

The number of Series A investments that his firm makes did not change which resulted in so called Series A crunch. However he believes that there is no crunch; companies that deserve funding are able to raise it one way or another.

David Beisel

He starts by mentioning one of the current trends in the industry which is the proliferation of angels, accelerators and micro VC firms; especially in the West Coast. Similar to Bilal, David also does not believe in the Series A crunch, and adds that big guys can have even larger funds in the coming years, and therefore will make larger investments. However, for the smaller firms, focusing in the niche markets will help them differentiate and stay relevant. David also mentions the death of 'cleantech' and potential decrease in the healthcare investments.

Dustin Dolginow

Dustin singles out Series A crunch as the current trend and instead of questioning if it exists or not, he explains the potential reasons that led to the current problems in the industry. Dustin mentions that especially after 2010, venture capitalists' money became more tactical rather than strategic; he calls the current situation as a 'chaos market'. Series A is no longer the usual funding round, and the number of ways to get there increased exponentially in the recent years; angels⁴⁰, crowd funding, bootstrapping, micro VC firms, accelerators, incubators, competitions etc. Dustin adds that they now see a lot of startups skipping the Series A funding, which he defines as a \$4 million investment on average, and directly raise Series B. which is \$18 million to \$30 million. He gives Cinemagram and Snapguide as examples of this phenomenon.

Dustin argues that market share is not important anymore; what is important is the mind share and venture capitalists started to realize this. For example if a startup is funded by Y Combinator before Sequoia, it should scare Sequoia. The change in the industry disrupts the VC firms in general. As a result, we now

⁴⁰ Entrepreneur, 'Angels in America': <http://www.entrepreneur.com/article/225887>

see an increase in the number of VC firms giving out office spaces through summer. However it is part of their marketing budget, and therefore they do not necessarily care about these programs, and only use them as sort of an advertisement strategy, and Dustin thinks this has to change if they want to cope with current industry trends.

Mackey Craven

Mackey talks about the current investment strategies of some of the VC firms in US. He starts by explaining his own firm, Bessemer Venture Partners. He says that BVP is similar to a conglomerate type parent company and have numerous of sub-groups under it that are focused on distinctive sectors. Andreessen Horowitz on the other hand, is following a complete different strategy; they are like a venture level accelerator. They basically give a startup everything that is necessary to become successful. However they are only focused on the Valley startups because of their networks, and Mackey thinks that although this strategy looks very promising at the moment, people should wait a little bit more too see if this is working or not. On top of that, it is questionable whether other firms can do the same job, especially the current market may not accommodate this type of service in larger numbers.

3.4 Questionnaire

In addition to the interviews with the venture capitalists, a short questionnaire was also distributed. It consists of two questions where investors were asked to give points to different extrinsic and intrinsic values that are explained in chapter 2 of this thesis. Investors distributed 100 points for extrinsic values which consists of eight values, and also distributed another 100 points for intrinsic values which consists of eleven values. Higher the points given to a certain value, the most important it is for venture capitalists during team evaluation process.

There are two reasons behind constructing a questionnaire like this. First, sometimes interviews do not possess enough data or it is hard to extract from the context. Aim here is to understand in detail of what are the key characteristics for entrepreneurs to get funded and potentially be successful. Secondly, it helps

one of the aims of this thesis, which is to quantify team evaluation process. The points distributed by the investors will be combined with the initial research in chapter 2 to come up with weights of these characteristics, and will be essential to construct an easy score card and algorithm for the investors.

Following tables are the results of this questionnaire, where the points given by individual investors were averaged. It was interesting to see that for the extrinsic values, each venture capitalist singled out a different characteristic, while for intrinsic values, each of them at least share one of the characteristics.

Extrinsic Values	
Domain Knowledge	28.0
Previous Work or Startup Experience	22.4
First Try or Serial Entrepreneur	20.2
Single Founder or Multiple Co-Founders	13.2
School Attended	7.0
Family Background	5.0
Age	3.1
Citizenship	1.0
SUM	100.0

Table 5: Extrinsic Values in the order of Importance

For the extrinsic values, top three characteristics are domain knowledge, work or startup experience, and if they are serial entrepreneur or not. Comparing these with the research in Chapter 2, results are similar. For example, Table 3 showed that 95% of the successful startups had a founder with work experience, and in general, more than half of the founders had previous startup experience. Similarly, it also showed that serial entrepreneurship seems to increase the probability of success which investors seem to agree. However there is a mismatch with the research and this questionnaire; research in Chapter 2 didn't give too much credit for domain knowledge while investors almost singled out this characteristic as the most important one. Possible reason behind this, it is almost impossible to gather enough data on the founders to see if they had domain knowledge or not beforehand. Closest one can get is to try to match their previous work or startup experiences with industrial area that their current company competes in. In the

end research in Chapter 2 concluded that domain knowledge is more important for sectors such as healthcare that are basically impossible to get in or even think about to start a new company without the necessary domain knowledge. Another important factor can be that there is a valid logic behind investors' bias towards domain knowledge; to make sure that they invested their money into the people who know what to do. Although domain knowledge increases the possibility of getting funded, this thesis argues that it is not that important as the investors' suggest for becoming successful. A certain level of knowledge is a necessity of course, but the rest can be learned through fast iterations and may sometimes even help the entrepreneur more; because he/she won't have biases and ready judgments in his/her head, and therefore will question everything. To sum up, if the team has a certain level of domain expertise either through first hand or through research, and also have high levels of intellectual honesty and passion, they can close this knowledge gap and succeed.

Intrinsic Values	
Passion	18.1
Ability to Attract Talent	16.1
Leadership	13.5
Optimism	9.3
Self-Awareness	8.8
Risk Tolerancy	8.5
Intellectual Honesty	6.8
Reason/Purpose	6.7
IQ/Smarts	6.3
Authenticity/Uniqueness	4.7
Humility	1.2
SUM	100

Table 6: Intrinsic Values in the order of importance

Top three intrinsic values according to the investors are having passion, ability to attract and sustain talent, and possessing leadership skills. Similar to the research in chapter two, passion is the key element for every startup and is the number one necessity. Then, in order to scale up, an entrepreneur should

always be actively hiring, and have the ability to attract top talent around the world. This attraction does not necessarily the result of benefits and perks given to potential employees; it is about the ability to share the passion of the founder and vision of the company with these people. Then leadership comes into the equation; it is an essential skill set to lead the people you hired, grow the company and retain the talent. According to both the research and interviews, these three elements are the backbone of a successful entrepreneur.

3.5 Conclusion

Results of the interviews with the investors are parallel to the findings in the secondary research except domain knowledge which seems to be the most important criteria in general. Similarly, intellectual honesty was introduced as one of the most important characteristic in chapter 2, while investors didn't believe that it made too much difference.

It was interesting to see that an A-team is not always ideal choice for the venture capitalists; however they also gave examples from successful A-team investments. On the topic of immigrant entrepreneurs, almost every investor acknowledged that they are different than American entrepreneurs. But they disagree that it should be part of the screening process. On the potential use of algorithms for team evaluation, investors were careful and did not rule out the future innovations on this subject. They also mentioned the lack of data points to create a useful algorithm, and importance of the human factor in the decision making process. Lastly, most of the investors disagreed that there is a Series A crunch, but also acknowledged increase in the number of startups looking for Series A. Results of the questionnaire at the end of the chapter are promising and are used in chapter 4 as weights in calculating potential success of an entrepreneur.

Chapter 4 – Entrepreneurial Success Factor

4.1 Introduction

After in-depth research of successful entrepreneur characteristics in Chapter 2, and analysis of venture capitalist interviews in Chapter 3, this particular chapter focuses on combining results of these to add a new level to team evaluation process. Currently, intuition plays a huge role, and this thesis intends to add a quantification process on top of intuition, helping investors to make more educated choices, and to release them from their biases.

This chapter explains the scoring method, offers an interactive Excel sheet, and shows how investors can use this scorecard. Venture capitalists can easily make modifications on this system according to their needs and experiences. It is important to add that this is not a clear cut formula, rather it is a guide. It doesn't guarantee entrepreneurial success alone, however using it with market research analysis on top of intuition will increase the probability of making a good choice. It can also be used to compare two different teams, if both their ideas seem reasonably good, and the question is to invest in only one of them. What is more important, if a particular venture capital firm uses this system for their entire existing portfolio and investments in the near future, they will be holding a very important historical data to look back, and increase the success rate of this system by making small adjustments. Additionally, associates or principals in the firm can use this system aligned with the firm strategy to screen the leads more efficiently.

4.2 Methodology

There are 18 characteristics divided into two main categories; extrinsic and intrinsic values. Each characteristic is given a score between 0 and 10. How to score, and scaling process is given in the next section.

Each characteristic has a weight attached to it. In addition, each category has its own weight; extrinsic values have a weight of 0.6, while the intrinsic values have a weight of 0.4. These weights are calculated from the questionnaire given to the venture capitalists, and the results that were analyzed at the end of Chapter 3. The percentages from the questionnaire are divided by 200 to put all the weights between 0 and 1. It is possible to change these weights according to the needs and beliefs of the venture capital firm, although current weights are basically an average of different opinions and therefore should be a valid starting point.

After the gathered data is entered to the Excel table, it will basically multiply each score with their corresponding weights and will calculate a value between 0 and 5 for both the extrinsic and intrinsic category. These are named as X-Factor and I-Factor respectively. These factors represent the quality of the characteristics of the entrepreneur, and if it makes sense. Finally, both these factors are multiplied by their individual weights, and summing up the resulting values will give Entrepreneurial Success Factor, which lies between 0 and 5.

Another important aspect of this method is the introduction of thresholds. Each characteristic, as well as each factor has its own threshold. Main idea behind it is to make sure that Entrepreneurial Success Factor calculated at the end is not determined by couple of less important characteristics just because they are very high. For example, passion is the most important intrinsic characteristic according to both the research and the interviews and therefore having a passion value less than the threshold should make the entrepreneur a less likely choice for investment even if he/she has very high numbers for less important characteristics such as humility and optimism. These thresholds are calculated by using two different methods. First and most important one is calculating the X-Factor of the 95 successful founders that are analyzed in Chapter 2 and averaging each of their characteristics. Reason behind using the average instead of the lowest value in the data set as a threshold is because of the outliers (Figure. 2); such as founders who did not attend to college or founders that had no prior work or startup experience. As it can be noticed, this method is not used for calculating thresholds for I-Factor, because it is impossible to

determine their intrinsic characteristics without meeting the 95 founders in the sample set except some of the new research in this area (Cardon, Gregoire, Stevens, & Patel, 2013). Therefore a second method is used which is basically creating a different scaling method for the intrinsic values, where the threshold is basically just above average.

4.3 Scorecard

This scorecard (Appendix IX) includes exactly the same characteristics that are analyzed in thesis and that are given to venture capitalists as part of their interview except one, which is citizenship. After the research, it is decided that citizenship should be part of the family background as it is almost negligible in a larger scale.

The following link is a way to download both the scorecard, and the excel file that will calculate the output using the data entered on the scorecard.

Link: <http://bit.ly/10ltfFX>

In the Excel sheet there are two tabs; thresholds and weights tab consists of the findings of this research and therefore it is not necessary to change any part of it. However it can be changed if the investor believes that weights should be distributed in another way and it will automatically change the main formula. Program tab is where the investor puts in the data he/she gathered during a meeting with potential entrepreneurs. After entering the data, if there are cells highlighted in red, it means that those values are below the threshold. If there are cells highlighted in yellow, it means that the points given are not between 0 and 10. If the cells are highlighted on green, it basically means that this entrepreneur has potential to create a successful company.

4.4 Scaling

Different scaling criteria are introduced for each characteristic to both make it easier for investors and to increase the reliability of this method. In general, each characteristic is scored between 0 and 10. While

the values in the extrinsic section should be integer, for the intrinsic section investors can add decimals if 0 to 10 scale is not responsive enough for them although it will have very small effect on the overall picture. Scaling criteria for each of the characteristics are explained below.

4.4.1 Extrinsic Values

Education Level and School Reputation

In chapter two, the effect of education level is analyzed in detail, where 58% of the successful founders had a Bachelor's degree in Engineering, and 37% of the same group have an Advanced Degree (Table. 1). It is also important to add three different factors to the type of degree for scaling. First of all, the reputation of the school they attended which can be determined by using ranking systems, such as US News College Rankings⁴¹. There are two reasons behind looking at the reputation of a school. First one is the screening process that these schools have. As the reputation increases, enrolling to those colleges becomes much harder and therefore requires a certain level of ability, and possessing certain characteristics that are also important for entrepreneurship. Second reason is about the assumption that as the reputation increases, the quality of the content taught and the opportunities given to students increase. Another factor to include to this scaling process is the number of degrees a potential entrepreneur has and also the combination of these degrees. For example, getting an Advanced Degree in Computer Science while you already have a Bachelor's in the same area may not be a game changer like getting the same advanced degree on top of a Bachelor's in Art History.

Following tables are a step by step guide on how to distribute points depending on the education the potential entrepreneur possess.

Degree Type	Points
Never attended	0
Bachelor's, Engineering	4-7
Bachelor's, Rest	2-5

⁴¹ US News, Rankings: <http://www.usnews.com/rankings>

If Bachelor`s, Engineering then;	Points	If Bachelor`s, Rest then:	Points
Advanced Degree, Engineering	2-3	Advanced Degree, Engineering	3-4
Advanced Degree, MBA	2-3	Advanced Degree, MBA	2-3
Advanced Degree, Rest	1-2	Advanced Degree, Rest	1-2
No Advanced Degree	0	No Advanced Degree	0

School Ranking	B., Engineering	B., Non- Engineering	A.D., Engineering	A.D., MBA	A.D., Rest
Top 10	7	5	3-4	3	2
10-25	6	4	3-4	3	2
25-50	5	3	2-3	2	1
50+	4	2	2-3	2	1

Table 7: How to distribute points in education section

Age

Point distribution with respect to age is very straight forward. This scaling criterion is the direct result of the histogram (Figure. 1) and Box-Whisker graph (Figure. 2) in Chapter 2 that represents the age distribution of successful founders, and the effect of age on capital multiplier (Figure. 3). Following table shows how to give points to a potential entrepreneur on the basis of age.

Age	Points
18-21	6-7
22-25	8-9
26-34	9-10
35-38	5-6
39-42	3-4
43+	0-2

Table 8: How to distribute points in age section

Some may argue the substantial decrease in points after the age of 35 is not realistic. However it is important to point out that even if a 39 year old entrepreneur gets only 4 points, he will most probably get

10 points from the work/start-up experience value and therefore will easily close the gap with a younger entrepreneur, especially considering the weights associated with these attributes where age plays only a minor role compared to previous experience.

Family Background

First of all, only one of the venture capitalists that are interviewed pointed out the importance of the family background, while others did not give any point to it at all. Therefore, weight of this value is very low. However the method to distribute points for this value is designed in a way for venture capitalists who believe in the importance of the family background can give higher points to balance the associated low weight. It includes an intuition criterion where the amount of points given to an entrepreneur would be based on pure intuition that is a result of personal experience and meetings with the entrepreneur. Following table shows how this system works.

Immigrant Status	Points	Family Wealth	Points
1st generation	2	Poor	3
2nd generation	1	Medium	2
3rd generation or US Citizen	0	Rich	1

Intuition	0-5
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Table 9: How to distribute points in family background section

First Time or Serial Entrepreneur

Most of the time, serial entrepreneurs are preferred over first time entrepreneurs. However when giving out points, it is important to look at the successes of the serial entrepreneur with its previous affairs. Scaling system for this value differentiates between the previous entrepreneurs who were not able to raise a series of funding, who were able to raise a series of funding, and who were able to exit. It also takes into consideration the amount of funding, the number of times the entrepreneur was able to raise a series, the

amount of the value they brought in by exiting, and the number of times they were able to exit with different startups. Following tables summarizes how to distribute points to a potential entrepreneur.

Entrepreneurship Level	Points
First Time	1-2
Serial Entr., failure at raising money	3-4
Serial Entr., success at raising money	5-6-7
Serial Entr., success at exiting	8-9-10

Table 10: How to distribute points in serial entrepreneurship section

Single Founder or Multiple Co-Founders

Number of founders is one of the crucial parts of venture capital screening, and also the potential of founding a successful startup. Being an entrepreneur is a lonely profession and having co-founders that you can rely on is very important. There are of course examples of single founder companies that had very successful exits, but they are outliers (Figure. 2). Looking at the data presented in Chapter 2 (Table. 4), ideal number of co-founders is 2.57 and therefore having 2 or 3 co-founders is the ideal situation. Having a lot of co-founders is a negative most of the time, but better than being a single founder. In addition, the second most important factor is if the co-founders knew each other for a long time, and also worked in successful projects that foreshadow good team chemistry even when things go wrong. Therefore, pointing system differentiates between founders who worked before and who did not. Following table summarizes how to distribute points for this value.

No. of Founders	Relationship	Points
1	-	1-2
2	Not Worked Before	7
	Worked Before	8
3	Not Worked Before	8
	Some of them Worked Before	9
	All of them Worked Before	10
4	Not Worked Before	7
	Some of them Worked Before	8
	All of them Worked Before	9
5	Not Worked Before	6
	Some of them Worked Before	7
	All of them Worked Before	8
6+	Not Worked Before	3
	Some of them Worked Before	4
	All of them Worked Before	5

Table 11: How to distribute points in the number of founders section

Previous Work and Startup Experience

Looking at the results of the research in Chapter 2, one can see that 53.7% of the founders had previous startup experience as a founder, an impressive 94.4% of the companies have at least one founder with work experience, and 69.4% of the companies had at least one founder with previous startup experience (Table. 3). In addition, average capital multiplier (exit value over total funding) is substantially high with founders who have startup or work experience. It is not a coincidence that venture capitalists that are interviewed selected this criterion as the second most important extrinsic value (Table. 5). Scaling system for this criterion differentiates between the number of years of work experience, and also the importance of the role in a startup. Following tables show how to distribute points.

Work Experience	Points		
0-1 year	1	Startup Experience	Points
1-2 years	2		
2-3 years	3		
3-4 years	4		
5+ years	5		
		As an employee	3
		As a key employee	4
		As a founder	5

Table 12: How to distribute points in the previous experience section

Domain Knowledge

This is the only value that is almost based all on intuition and experience of the venture capitalist. It is the most important extrinsic value according to venture capitalists (Table. 5); as a result associated weight is high. Although it is based on intuition, there is a couple of ways to help an investor. First of all, it can be assumed that a typical college graduate would have a 4 or 5 points of domain knowledge in a scale of 0 to 10 on the subject he studied, assuming that he only had internships and nothing substantial during his coursework. This value increases to 6 or 7 if the same entrepreneur goes for an advanced degree on the same topic. Similarly, startup and work experience on the same or similar topic would increase the number to 8 or 9, and even 10 if this experience is more than 5 years. But overall, it is mostly depends on what the venture capital believes have the most effect on entrepreneurial success.

4.4.2 Intrinsic Values

Contrary to the extrinsic values, intrinsic values are completely based on intuition. As a result, there is no structured or detailed point system for these values. Only rule is that the points given should lie between 0 and 10. In addition, thresholds are applicable here as well. It is assumed that an average person has 5 points from each of these values. Therefore except passion, ability to attract talent and leadership, all of the intrinsic values have a threshold of 5 points. Thresholds for the remaining three are all 6 points, because these three characteristics are singled out as the most important ones for an entrepreneur to

possess, and without certain level of passion, leadership quality and talent attraction ability, it is very hard for an entrepreneur to survive.

4.5 A Team of Entrepreneurs

This method works with multiple founders as well since it takes single/multiple founders calculation into consideration. Each individual of the team should be evaluated using the scorecard and the Excel sheet. Then, there are two ways to approach a multiple founder problem. First one is the easiest method; basically taking an average of the Entrepreneurial Success Factor. Second method is basically comparing each characteristic of the co-founders with each other. For example if passion is very high in one of the co-founders, he can close the gap of the remaining. Both of these methods should be implemented and should be decided on the outcome case by case basis.

Chapter 5 – Conclusion

Evaluation process have always been a tough task; whether this evaluation is for hiring⁴² an employee, accepting a student to a business school or choosing a team of entrepreneurs to invest in. Evaluators will always make mistakes but it is important to minimize that risk. This thesis acknowledges how hard it is to evaluate a team of entrepreneurs, however it also argues that current methodology of team evaluation is broken. Throughout the research period, the main aim was to introduce a new method while taking the current methodologies into consideration, and decrease the money and time spent for these processes, and increasing the accuracy.

In order to introduce this method, various primary and secondary researches have been done. Chapter 2 tried to analyze the success stories in the recent years and the correlation of that success with the founder characteristics. This chapter can also be used as a standalone piece and a background for various other

⁴² TechCrunch, 'The war for talent among startups needs a new approach:
<http://techcrunch.com/2012/04/27/42floors-pda-the-war-for-talent-among-startups-needs-a-new-approach-heres-why/>

articles in the future. Chapter 3 includes the interviews with venture capitalists in the Boston area to get an insider look. Various topics were discussed including what differentiates immigrant entrepreneurs from their counterparts, and venture capitalists' success and failure stories on team evaluation. A questionnaire is also distributed to gather concrete data. Chapter 4 incorporates the data gathered in both of these chapters to create an Excel sheet and a scorecard that can be used while evaluating a candidate. A simple guide on how to distribute points to these characteristics is also given.

Various articles (Barkman, 1994) are published on the correlation of the characteristics of founders and their stamp on the startup; but these articles never approached this subject in a practical way that would help investors directly. This thesis hopes that the introduced methodology is practical enough for these investors to implement it right away. It also encourages that there will be more experiments and research on this topic. Following sections states the limitations of this thesis and potential research areas in the future.

5.1 Limitations and Further Research

Most important limitation of this thesis and therefore a potential research area is that it does not take failures into consideration while analyzing companies in Chapter 2. Initial intent was to give examples from both cases to understand the effect of certain characteristics. However there were almost no data available on startups that failed or the sources were not credible. If in the future this data becomes much more accessible, it is highly encouraged to add that to this research to compare the importance of characteristics. On the other hand, this thesis tried to work around this limitation by interviewing investors and combining that data with the initial research.

Another limitation is the number of investors that are interviewed. Considering that results of the questionnaire are directly used in the final Excel sheet, it may be reasonable to distribute this questionnaire to at least thirty investors to create a more reliable and responsive data set. However it is

important to add here that venture capitalists that are interviewed, shared very similar responses to the questionnaire; therefore it is possible that additional interviews will not change the end result.

Last but not least, this research can be improved by interviewing entrepreneurs on top of venture capitalists to have a better understanding of both sides of the table.

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APPENDIX I – Investments and Exits

Company	Investors	Total Investment Acquired	M/A	IPO(first day)	Capital Multiplier
Youtube	Sequoia Capital	\$ 11,500,000.00	\$ 1,650,000,000.00	-	143.48
Bebo	Balderton Capital	\$ 15,000,000.00	\$ 850,000,000.00	-	56.67
Zappos	Venture Frogs, Scott Banister, Hadi Partovi, Ali Partovi, Tony Hsieh, Sequoia Capital, Zvest	\$ 62,800,000.00	\$ 1,200,000,000.00	-	19.11
AdMob	Michael Dearing, Accel Partners, Sequoia Capital, DFJ, Northgate Capital	\$ 47,200,000.00	\$ 750,000,000.00	-	15.89
Right Media	Yahoo	\$ 45,000,000.00	\$ 850,000,000.00	-	18.89
TellMe Networks	Hadi Partovi, Ali Partovi	\$ 6,000,000.00	\$ 800,000,000.00	-	133.33
ITA Software	Battery Ventures, General Catalysy Partners, PAR Capital Management, Sequoia Capital, Spectrum Equity	\$ 100,000,000.00	\$ 700,000,000.00	-	7.00
IronPort Systems	Reid Hoffman, Menlo Ventures, Allegis Capital, Peter Thiel, Max Levchin, Amicus Capital, Josh Kopelman, New Enterprise Associates	\$ 61,500,000.00	\$ 830,000,000.00	-	13.50
LogMeIn	Prism Venture Partners, 3TS Capital Partners, Integral Capital Partners, Polaris Venture Partners	\$ 20,000,000.00	-	\$ 67,000,000.00	3.35
Zimbra	Accel Partners, Benchmark, DAG Ventures, Inventures Group, Presido STX, Redpoint Ventures, Eric Hahn, Tim Haley, Kevin Harvey	\$ 14,500,000.00	\$ 350,000,000.00	-	24.14
Skype	Draper Richards, Bessemer Venture Partners, DFJ, Index Ventures, eBay, Andreessen Horowitz, Silver Lake Partners	\$ 69,100,000.00	\$ 8,500,000,000.00	-	123.01
Bill Me Later	Azure Capital Partners, Crosspoint Venture Partners, GRP Partners, Kingdon Capital, Amazon	\$ 100,000,000.00	\$ 945,000,000.00	-	9.45
PlayFish	Accel Partners, Index Ventures	\$ 21,000,000.00	\$ 400,000,000.00	-	19.05
Last.fm	Peter Gardner, Stefan Glaenger, Index Ventures	\$ 5,000,000.00	\$ 280,000,000.00	-	56.00
Zynga	Reid Hoffman, Avalon Ventures, Clarium Capital, Foundry Group, Pilot Group, Union Square Ventures, Peter Thiel, Bob Pittman, Andy Russell, Brad Feld, Kleiner Perkins, Institutional Venture Partners, Andreessen Horowitz, Tiger Global Management, Kevin Rose, Digital Sky Technologies, Google, Softbank Capital, Morgan Stanley, T.Rowe Price, Fidelity Investments	\$ 860,000,000.00	-	\$ 7,000,000,000.00	8.14
LinkedIn	Sequoia Capital, Josh Kopelman, Greylock Partners, Bessemer Venture Partners, European Founders Fund, SAP Ventures, Goldman Sachs, McGraw-Hill	\$ 103,000,000.00	-	\$ 4,000,000,000.00	38.83

<u>Company</u>	<u>Investors</u>	<u>Total Investment Acquired</u>	<u>M/A</u>	<u>IPO(first day)</u>	<u>Capital Multiplier</u>
Facebook	Peter Thiel, Reid Hoffman, Accel Partners, Mark Pincus, Greylock Partners, Meritech Capital Partners, Founders Fund, Microsoft, Li Ka-shing, Horizons Ventures, Digital Sky Technologies, Elevation Partners, Goldman Sachs, TriplePoint Capital	\$ 2,240,000,000.00	-	\$ 104,000,000,000.00	46.43
Buddy Media	Roger Ehrenberg, James Altucher, Howard Lindzon, Peter Thiel, Mark Pincus, Softbank Capital, European Founders Fund, Greycroft Partners, Ron Conway, Institutional Venture Partners, Bay Partners, GGV Capital, Insight Venture Partners	\$ 90,000,000.00	\$ 689,000,000.00	-	7.66
Indeed	Allen and Company, New York Times, Union Square Ventures	\$ 5,000,000.00	\$ 1,000,000,000.00	-	200.00
Kayak	AOL, General Catalyst Partners, GoldHill Capital, Sequoia Capital, Accel Partners, Lehman Brothers, Norwest Venture Partners, Oak Investment Partners, Trident Capital, SVB Financial Group	\$ 229,000,000.00	\$ 1,800,000,000.00	-	7.86
OMGPOP	Kevin Rose, Brian Pokorny, Baseline Ventures, Spark Capital, Marc Andreessen, betaworks, Chris Dixon, Bessemer Venture Partners, Rho Capital Partners, Softbank Capital	\$ 16,600,000.00	\$ 210,000,000.00	-	12.65
Single Platform	First Round Capital, Gunderson Dettmer, RRE Ventures, DFJ Gotham Ventures, Jason Finger	\$ 4,450,000.00	\$ 100,000,000.00	-	22.47
Venmo	RRE Ventures, betaworks, Founder Collective, Dave Morin, Sam Lessin, Dustin Moskowitz, Varyner Media, Lerer Ventures, Accel Partners, Greycroft Partners	\$ 1,400,000.00	\$ 26,200,000.00	-	18.71
Hunch	General Catalyst Partners, Bessemer Venture Partners, SV Angel, Khosla Ventures, Ron Conway, Gideon Yu	\$ 19,200,000.00	\$ 80,000,000.00	-	4.17
Interclick	N/A	\$ 18,100,000.00	\$ 270,000,000.00	-	14.92
Spinback	Seed	\$ 300,000.00	\$ 15,000,000.00	-	50.00
Stamped	Bain Capital Ventures, Google Ventures, CrunchFund, Metamorphic Ventures, New York Times, Columbia Records, Justin Bieber, Ellen Degeneres, Ryan Seacrest, Brian Lee, Tom Conrad, TomorrowVentures	\$ 3,000,000.00	\$ 10,000,000.00	-	3.33
AdMeld	Foundry Groups, Spark Capital, Norwest Venture Partners, TimeWarner Investments	\$ 30,000,000.00	\$ 400,000,000.00	-	13.33
Invite Media	First Round Capital, Genacast Ventures, Comcast	\$ 5,000,000.00	\$ 80,000,000.00	-	16.00
Instagram	Andreessen Horowitz, Adam D'Angelo, Jack Dorsey, Chris Sacca, Baseline Ventures, Benchmark, Sequoia Capital, Thrive Capital, Greylock Partners	\$ 57,500,000.00	\$ 1,000,100,000.00	-	17.39

<u>Company</u>	<u>Investors</u>	<u>Total Investment Acquired</u>	<u>M/A</u>	<u>IPO(first day)</u>	<u>Capital Multiplier</u>
Jive Software	Sequoia Capital, Kleiner Perkins Caufield & Byers	\$ 57,000,000.00	-	\$ 1,000,000,000.00	17.54
Yelp	Max Levchin, Bessemer Venture Partners, Benchmark, DAG Ventures, Elevation Partners	\$ 56,000,000.00	-	\$ 1,300,000,000.00	23.21
SuccessFactors	Canaan Partners, Cardinal Venture Capital, Emergence Capital	\$ 45,000,000.00	\$ 3,400,000,000.00	-	75.56
Yammer	Charles River Ventures, Founders Fund, Emergence Capital Partners, Goldcrest Investments, Ron Conway, Keith Rabois, US Venture Partners, The Social Capital Partnership, Chamath Palihapitiya, DFJ, Meritech Capital Partners, Khosla Ventures, Capricorn Venture Partners, Max Levchin, CrunchFund, Ronnie Lott	\$ 142,000,000.00	\$ 1,200,000,000.00	-	8.45
Wildfire	Facebook, fbFund, Summit Partners, Jeff Clavier, Gary Vaynerchuk, 500 Startup, Felicis Ventures	\$ 14,100,000.00	\$ 350,000,000.00	-	24.82
Slideshare	Ariel Poler, Hal Varian, Yee Lee, Jonathan Abrams, Saul Klein, Mark Cuban, Venrock	\$ 3,000,000.00	\$ 119,000,000.00	-	39.67
Funzio	IDG Ventures, IDG Capital Partners, Rick Thompson	\$ 20,000,000.00	\$ 210,000,000.00	-	10.50

APPENDIX II – Dates and Acquirers

<u>Company</u>	<u>Year Founded</u>	<u>Exit Year</u>	<u>Acquired by</u>
Youtube	2005	2006	Google
Bebo	2005	2008	AOL
Zappos	1999	2009	Amazon
AdMob	2006	2009	Google
Right Media	2003	2007	Yahoo
TellMe Networks	1999	2007	Microsoft
ITA Software	1996	2010	Google
IronPort Systems	2000	2007	Cisco
LogMeIn	2003	2009	IPO
Zimbra	2004	2007	Yahoo
Skype	2003	2011	Microsoft
Bill Me Later	2000	2008	eBay
PlayFish	2007	2009	EA
Last.fm	2002	2007	CBS
Zynga	2007	2011	IPO
LinkedIn	2003	2011	IPO

<u>Company</u>	<u>Year Founded</u>	<u>Exit Year</u>	<u>Acquired by</u>
Facebook	2004	2012	IPO
Buddy Media	2007	2012	Salesforce
Indeed	2004	2012	Recruit Co.
Kayak	2004	2012	Priceline
OMGPOP	2006	2012	Zynga
Single Platform	2010	2012	ConstantContact
Venmo	2009	2012	Braintree
Hunch	2007	2011	eBay
Interclick	2007	2011	Yahoo
Spinback	2010	2011	BuddyMedia
Stamped	2011	2012	Yahoo
AdMeld	2007	2011	Google
Invite Media	2007	2010	Google
Instagram	2010	2012	Facebook

<u>Company</u>	<u>Year Founded</u>	<u>Exit Year</u>	<u>Acquired by</u>
Jive Software	2001	2012	IPO
Yelp	2004	2012	IPO
SuccessFactors	2001	2012	SAP
Yammer	2008	2012	Microsoft
Wildfire	2008	2012	Google
Slideshare	2008	2012	LinkedIn
Funzio	2009	2012	Gree

APPENDIX III – Founder Profile

<u>Company</u>	<u>Founders</u>	<u>Age at the Time</u>	<u>Born and Raised</u>
Youtube	Chad Hurley	28	USA
	Steve Chen	27	Taiwan/USA
	Jawed Karim	26	Germany/USA
Bebo	Michael Birch	35	UK
	Xochi Birch	33	USA
Zappos	Nick Swinmurn	26	UK/USA
	Tony Hsieh	25	USA
	Alfred Lin		Taiwan/USA
AdMob	Omar Hamoui	29	N/A
Right Media	Michael Walrath	28	USA
	Noah Goodhart	27	USA
	Jonah Goodhart	25	USA
Tellme Networks	Mike McCue	31	USA
	Angus Davis	21	USA
ITA Software	Jeremy Wertheimer	34	USA
	Richard Aiken	N/A	USA
Ironport Systems	Scott Banister	25	USA
	Scott Weiss	34	USA
LogMeIn	Michael Simon	38	USA
	Marton Anka	30	Hungary
Zimbra	Roland Schemers	32	USA
	Satish Dharmaraj	N/A	N/A
	Ross Dargahi	32	N/A
Skype	Ahti Heinla	31	Estonia
	Priit Kasesalu	31	Estonia
	Jaan Tallinn	31	Estonia
BillMeLater	Gary Marino	44	USA
	Vince Talbert	32	USA
	Mark Lavelle	34	USA
Playfish	Kristian Segerstrale	30	Norway
	Sebastian de Halleux	30	Belgium
	Sami Lababidi	30	UK
	Shukri Shammass	33	UK
Last.fm	Richard Jones	20	UK
	Martin Stiksel	27	Austria
	Felix Miller	N/A	Germany
	Thomas Willomitzer	24	Austria
	Michael Breidenbruecker	N/A	Austria

<u>Company</u>	<u>Founders</u>	<u>Age at the Time</u>	<u>Born and Raised</u>
Zynga	Mark Pincus	41	USA
	Andrew Trader	38	USA
	Michael Luxton	N/A	N/A
	Eric Schiermeyer	N/A	N/A
	Steve Schoettler	39	USA
	Justin Waldron	19	USA
LinkedIn	Reid Hoffman	34	USA
	Konstantin Guericke	35	Germany
	Allen Blue	35	USA
Facebook	Mark Zuckerberg	20	USA
	Eduardo Saverin	22	Brazil
	Andrew McCollum	20	USA
	Dustin Moskovitz	20	USA
	Chris Hughes	21	USA
Buddy Media	Mike Lazerow	33	USA
	Kaas Lazerow	36	USA
	Jeff Ragovin	N/A	USA
Indeed	Rony Kahan	N/A	USA
	Paul Forster	N/A	USA
Kayak	Steve Hafner	36	USA
	Paul English	41	USA
OMGPOP	Charles Forman	26	USA
SinglePlatform	Wiley Cerilli	30	USA
Venmo	Andrew Kortina	26	USA
	Igram Magdon - Ismail	25	Zimbabwe
Hunch	Caterina Fake	38	USA
	Chris Dixon	37	USA
Interclick	Michael Katz	24	USA
Spinback	Dan Reich	25	USA
	Andrew Ferenci	23	USA
	Corey Capasso	23	USA
Stamped	Bart Stein	24	USA
	Robby Stein	27	USA
	Kevin Palms	27	USA
AdMeld	Ben Barokas	35	USA
	Brian Adams	N/A	USA

<u>Company</u>	<u>Founders</u>	<u>Age at the Time</u>	<u>Born and Raised</u>
Invite Media	Nathaniel Turner	22	USA
	Zachary Weinberg	22	USA
	Scott Becker	22	USA
	Michael Provenzano	22	USA
Instagram	Kevin Systrom	27	USA
	Mike Kreiger	25	Brazil
Jive Software	Matt Tucker	24	USA
	Bill Lynch	24	USA
Yelp	Jeremy Stoppelman	28	USA
	Russel Simmons	28	USA
Yammer	David O. Sacks	37	USA
	Adam Pisoni	N/A	N/A
Wildfire	Victoria Ransom	31	USA
	Alain Chuard	33	Switzerland
SlideShare	Amit Ranjan	34	India
	Rashmi Sinha	36	India
	Jonathan Boutelle	33	USA
Funzio	Andy Keidel	31	USA
	Ram Gudavalli	31	India
	Kenneth Chiu	29	USA
	Anil Dharni	34	India

APPENDIX IV – Founder Bachelor's Education

<u>Company</u>	<u>Founders</u>	<u>University 1</u>	<u>Bachelors Degree</u>
Youtube	Chad Hurley	Indiana University of Pennsylvania	B.A. in Fine Art
	Steve Chen	University of Illinois at Urbana-Champaign	B.Sc. Computer Science
	Jawed Karim	University of Illinois at Urbana-Champaign	B.Sc. Computer Science
Bebo	Michael Birch	Imperial College London	B.Sc. In Physics
	Xochi Birch	St. Mary's College of California	N/A
Zappos	Nick Swinburn	University of California, Santa Barbara	Film Studies
	Tony Hsieh	Harvard University	B.Sc. Computer Science
	Alfred Lin	Harvard University	B.Sc. Applied Mathematics
AdMob	Omar Hamoui	UCLA	B.Sc. Computer Science
Right Media	Michael Walrath	University of Richmond	B.A. in English
	Noah Goodhart	Cornell University	B.A. Political Science
	Jonah Goodhart	Cornell University	B.A. Political Science
Tellme Networks	Mike McCue	Never Attended	Never Attended
	Angus Davis	Never Attended	Never Attended
ITA Software	Jeremy Wertheimer	The Cooper Union for the Advancement of Science and Art	B.Sc. In Electrical Engineering
	Richard Aiken	N/A	N/A
Ironport Systems	Scott Banister	University of Illinois at Urbana-Champaign	B.Sc. Computer Science
	Scott Weiss	University of Florida	B.A. in Finance
LogMeIn	Michael Simon	University of Notre-Dame	B.Sc. In Electrical Engineering
	Marton Anka	Szamalk Institute	B.Sc. In Informatics
Zimbra	Roland Schemers	Oakland University	B.Sc. Computer Science
	Satish Dharmaraj	N/A	B.Sc. Computer Science
	Ross Dargahi	University of Houston	B.Sc. Computer Science and Mathematics
Skype	Ahti Heinla	University of Tartu	B.Sc. In Theoretical Physics
	Priit Kasesalu	Tallinn Technical University	B.Sc. In Computer Science
	Jaan Tallinn	University of Tartu	B.Sc. In Theoretical Physics
BillMeLater	Gary Marino	Syracuse University-Martin J. Whitman	B.Sc. In Finance
	Vince Talbert	Towson University	B.Sc. Economics
	Mark Lavelle	Miami University	B.Sc. In Finance
Playfish	Kristian Segerstrale	University of Cambridge	B.Sc. Economics
	Sebastian de Halleux	UCL Belgium	B.Sc. In Civil Engineering
	Sami Lababidi	Imperial College London	B.Sc. Computer Science and Mathematics
	Shukri Shammass	American College London	Business Administration
Last.fm	Richard Jones	University of Southampton	B.Sc. In Computer Science
	Martin Stiksel	N/A	N/A
	Felix Miller	University of Arts London	N/A
	Thomas Willomitzer	Technical University of Vienna	B.Sc. In Computer Science
	Michael Breidenbruecker	N/A	N/A

<u>Company</u>	<u>Founders</u>	<u>University 1</u>	<u>Bachelors Degree</u>
Zynga	Mark Pincus	Wharton School - UPenn	B.Sc. In Economics
	Andrew Trader	Wharton School - UPenn	B.SE. Entrepreneurial Management
	Michael Luxton	N/A	N/A
	Eric Schiermeyer	University of California, Santa Cruz	N/A
	Steve Schoettler	University of California, Berkeley	B.Sc. Electronic Eng. And Computer Science
LinkedIn	Justin Waldron	University of Connecticut(dropped out)	B.Sc. Computer Science
	Reid Hoffman	Stanford University	B.S. Symbolic Systems
	Konstantin Guericke	Stanford University	B.S. Organizations, Technology and Innovation
	Allen Blue	Stanford University	B.A. Drama, English
	Mark Zuckerberg	Harvard University(dropout)	B.Sc. In Computer Science and Psychology
Facebook	Eduardo Saverin	Harvard University	B.S. in Economics
	Andrew McCollum	Harvard University	B.Sc. In Computer Science
	Dustin Moskovitz	Harvard University(dropout)	B.S. in Economics
	Chris Hughes	Harvard University	B.A. in History and Literature
	Mike Lazerow	Northwestern University	B.S. in Journalism
Buddy Media	Kaas Lazerow	Dartmouth College	Economics, Art History, Philosophy
	Jeff Ragovin	State University of New York	B.A. in Broadcasting, Mass Media
	Rony Kahan	Texas A&M University	B.Sc. In Economics
Indeed	Paul Forster	N/A	N/A
	Steve Hafner	Dartmouth College	B.A. Economics, History
Kayak	Paul English	Umass Boston	B.A. in Computer Science
OMGPOP	Charles Forman	Never Attended	Never Attended
SinglePlatform	Wiley Cerilli	Syracuse University(Dropout)	N/A
Venmo	Andrew Kortina	University of Pennsylvania	B.A. Philosophy, English, Logic, Computer Science
	Igram Magdon - Ismail	University of Pennsylvania	B.S. Computer and Information Science, Theater
Hunch	Caterina Fake	Vassar College	B.A. English Literature
	Chris Dixon	Columbia University	BA,MA Philosophy
Interclick	Michael Katz	Syracuse University	B.S. in Economics, Finance
Spinback	Dan Reich	University of Wisconsin-Madison	B.S. Electrical Engineering
	Andrew Ferenci	University of Wisconsin-Madison	B.B.A. Entrepreneurship, Real Estate, Urban Planning
	Corey Capasso	University of Wisconsin-Madison	B.B.A. Entrepreneurship, Risk Management
Stamped	Bart Stein	Brown University	N/A
	Robby Stein	Northwestern University	B.Sc. In Computer Science
	Kevin Palms	Northwestern University	B.Sc. In Computer Science
AdMeld	Ben Barokas	Virginia Polytechnic Institute	B.Sc. In Economics
	Brian Adams	Ohio State University	B.S. Computer and Information Science

<u>Company</u>	<u>Founders</u>	<u>University 1</u>	<u>Bachelors Degree</u>
Invite Media	Nathaniel Turner	Wharton School - UPenn	B.S. in Economics, Marketing, Entrepreneurship
	Zachary Weinberg	Wharton School - UPenn	B.S. in Economics and Management
	Scott Becker	University of Pennsylvania	B.Sc. Computational Biology
	Michael Provenzano	University of Pennsylvania	B.Es. Material Science, Entrepreneurship, Nanotech
Instagram	Kevin Systrom	Stanford University	B.S. in Management Science, Engineering
	Mike Kreiger	Stanford University	B.S. in Symbolic Systems
Jive Software	Matt Tucker	University of Iowa	B.S. in Computer Science
	Bill Lynch	University of Iowa	B.S. in Computer Science
Yelp	Jeremy Stoppelman	University of Illinois at Urbana-Champaign	B.S. in Computer Science
	Russel Simmons	University of Illinois at Urbana-Champaign	B.S. in Computer Science
Yammer	David O. Sacks	Stanford University	B.A. in Economics
	Adam Pisoni	N/A	N/A
Wildfire	Victoria Ransom	Macalaster College	B.A. Economics
	Alain Chuard	Macalaster College	B.A. Economics
SlideShare	Amit Ranjan	NIT Jaipur	B.Sc. In Mechanical Engineering
	Rashmi Sinha	University of Allahabad	B.A. Cognitive Science
	Jonathan Boutelle	Brown University	B.S. Psychology, Computer Science
Funzio	Andy Keidel	Yale University	B.Sc. Computer Science
	Ram Gudavalli	University of Illinois at Urbana-Champaign	B.Sc. Computer Engineering
	Kenneth Chiu	Cornell University	B.Sc. Computer Science
	Anil Dharni	Punjab College	B.E. Aeronautical

APPENDIX V – Founder Advanced Degree

Company	Founders	University 2	Masters/PHD Degree
Youtube	Chad Hurley	N/A	N/A
	Steve Chen	N/A	N/A
	Jawed Karim	N/A	N/A
Bebo	Michael Birch	N/A	N/A
	Xochi Birch	N/A	N/A
Zappos	Nick Swinmurn	N/A	N/A
	Tony Hsieh	N/A	N/A
	Alfred Lin	Stanford University	M.Sc. Statistics
AdMob	Omar Hamoui	University of Pennsylvania-Wharton(Drop-out)	MBA
Right Media	Michael Walrath	N/A	N/A
	Noah Goodhart	Yale University(Drop-out)	M.A. Political Science
	Jonah Goodhart	N/A	N/A
Tellme Networks	Mike McCue	N/A	N/A
	Angus Davis	N/A	N/A
ITA Software	Jeremy Wertheimer	MIT	Artificial Intelligence
	Richard Aiken	N/A	N/A
Ironport Systems	Scott Banister	N/A	N/A
	Scott Weiss	Harvard Business School	MBA
	Michael Simon	Washington University St. Louis	MBA
LogMeIn	Marton Anka	N/A	N/A
	Roland Schemers	Oakland University	M.Sc. Computer Science
	Satish Dharmaraj	N/A	M.Sc. Computer Science
Zimbra	Ross Dargahi	N/A	N/A
	Ahti Heinla	N/A	N/A
	Priit Kasesalu	N/A	N/A
	Jaan Tallinn	N/A	N/A
Skype	Gary Marino	N/A	N/A
	Vince Talbert	University of Virginia-Darden	MBA
	Mark Lavelle	N/A	N/A
BillMeLater	Kristian Segerstrale	London School of Economics and Political Science	M.A. Economics
	Sebastian de Halleux	Imperial College London	M.Sc. Civil Engineering
	Sami Lababidi	Imperial College London	M.Sc. Computer Science
	Shukri Shammas	N/A	N/A
Playfish	Richard Jones	N/A	N/A
	Martin Stiksel	N/A	N/A
	Felix Miller	N/A	N/A
	Thomas Willomitzer	University of London - Birkbeck	M.Sc. Computer Science
	Michael Breidenbruecker	N/A	N/A
Last.fm	Richard Jones	N/A	N/A
	Martin Stiksel	N/A	N/A
	Felix Miller	N/A	N/A
	Thomas Willomitzer	University of London - Birkbeck	M.Sc. Computer Science
	Michael Breidenbruecker	N/A	N/A

<u>Company</u>	<u>Founders</u>	<u>University 2</u>	<u>Masters/PHD Degree</u>
Zynga	Mark Pincus	Harvard Business School	MBA
	Andrew Trader	Wharton School - UPenn	MBA
	Michael Luxton	N/A	N/A
	Eric Schiermeyer	N/A	N/A
	Steve Schoettler	N/A	N/A
	Justin Waldron	N/A	N/A
LinkedIn	Reid Hoffman	Oxford University	M.S. Philosophy
	Konstantin Guericke	Stanford University	M.S. Engineering
	Allen Blue	N/A	N/A
Facebook	Mark Zuckerberg	N/A	N/A
	Eduardo Saverin	N/A	N/A
	Andrew McCollum	N/A	N/A
	Dustin Moskovitz	N/A	N/A
	Chris Hughes	N/A	N/A
Buddy Media	Mike Lazerow	Northwestern University	M.S. in Journalism
	Kaas Lazerow	N/A	N/A
	Jeff Ragovin	N/A	N/A
Indeed	Rony Kahan	INSEAD	MBA
	Paul Forster	INSEAD	MBA
Kayak	Steve Hafner	Northwestern University	MBA
	Paul English	Umass Boston	M.A. in Computer Science
OMGPOP	Charles Forman	N/A	N/A
SinglePlatform	Wiley Cerilli	N/A	N/A
Venmo	Andrew Kortina	N/A	N/A
	Igram Magdon - Ismail	N/A	N/A
Hunch	Caterina Fake	N/A	N/A
	Chris Dixon	Harvard Business School	MBA
Interclick	Michael Katz	N/A	N/A
Spinback	Dan Reich	N/A	N/A
	Andrew Ferenci	N/A	N/A
	Corey Capasso	N/A	N/A
Stamped	Bart Stein	N/A	N/A
	Robby Stein	N/A	N/A
	Kevin Palms	N/A	N/A
AdMeld	Ben Barokas	N/A	N/A
	Brian Adams	N/A	N/A

<u>Company</u>	<u>Founders</u>	<u>University 2</u>	<u>Masters/PHD Degree</u>
Invite Media	Nathaniel Turner	N/A	N/A
	Zachary Weinberg	N/A	N/A
	Scott Becker	N/A	N/A
	Michael Provenzano	N/A	N/A
Instagram	Kevin Systrom	N/A	N/A
	Mike Kreiger	Stanford University	M.S. in Symbolic Systems
Jive Software	Matt Tucker	N/A	N/A
	Bill Lynch	N/A	N/A
Yelp	Jeremy Stoppelman	Harvard Business School(deffered)	MBA
	Russel Simmons	N/A	N/A
Yammer	David O. Sacks	University of Chicago Law School	J.D.
	Adam Pisoni	N/A	N/A
Wildfire	Victoria Ransom	Harvard Business School	MBA
	Alain Chuard	Stanford University	MBA
SlideShare	Amit Ranjan	University of Delhi	MBA
	Rashmi Sinha	Brown University	PHD Cognitive Neuro
	Jonathan Boutelle	N/A	N/A
Funzio	Andy Keidel	N/A	N/A
	Ram Gudavalli	University of California, Berkeley	EECS
	Kenneth Chiu	N/A	N/A
	Anil Dharni	MIT Sloan	MBA

APPENDIX VI – Founder Previous Experience

Company	Founders	Work Experience	Startup Experience(As a Founder)
Youtube	Chad Hurley	Paypal	None
	Steve Chen	Paypal, Facebook	None
	Jawed Karim	Paypal	None
Bebo	Michael Birch	Tickle	Birthday Alarm, Ringo, Lemon Link, Babysitting Circle
	Xochi Birch	HUON Corp.	Birthday Alarm, Lemon Link, Babysitting Circle
Zappos	Nick Swinmurn	Minor-league baseball ticket sales, AutoWeb	4students
	Tony Hsieh	Oracle	LinkExchange
	Alfred Lin	TellMe Networks	LinkExchange
AdMob	Omar Hamoui	Sony	Vertical Blue, GoPix, Fotochat, HerBabyShower.com
Right Media	Michael Walrath	Personal trainer, Fitness Program Manager, Doubleclick	None
	Noah Goodhart	None	Colonize.com, Smarter Ad Group
	Jonah Goodhart	None	Colonize.com, Smarter Ad Group
Tellme Networks	Mike McCue	IBM, Netscape	Paper Software
	Angus Davis	IDS Network, Netscape	None
ITA Software	Jeremy Wertheimer	None	None
Ironport Systems	Richard Aiken	Dentist	N/A
	Scott Banister	Sloan Foundation, Linkexchange, Paypal, Idealab, eVoice	SubmitIt
	Scott Weiss	EDS, McKinsey, Hotmail, Idealab	an e-commerce website
LogMeIn	Michael Simon	Red Dot, Fathom Technology	Uproar Inc.
	Marton Anka	None	3am Labs
Zimbra	Roland Schemers	Stanford University, Sun Microsystems, Javasoft	Onebox, Openwave Systems
	Satish Dharmaraj	Transarc, Javasoft, Onebox, Openwave Systems	None
	Ross Dargahi	Javasoft	Onebox, Openwave Systems
Skype	Ahti Heinla	Joltid, Everyday.com	Bluemoon Interactive(Kazaa)
	Priit Kasesalu	N/A	Bluemoon Interactive(Kazaa)
	Jaan Tallinn	N/A	Bluemoon Interactive(Kazaa)
BillMeLater	Gary Marino	CitiGroup, First USA	None
	Vince Talbert	CitiGroup, First USA, Bank One, Talk.com	None
	Mark Lavelle	First USA	None
Playfish	Kristian Segerstrale	Digital Mobility, Glu Mobile	MacroSpace
	Sebastian de Halleux	Booz Allen Hamilton, Glu Mobile, Nokia	MacroSpace
	Sami Lababidi	Lehman Brothers, Digital Mobility, Glu Mobile	MacroSpace
	Shukri Shammas	Westbury Schotness	Domainia, MacroSpace
Last.fm	Richard Jones	None	Audiscrobbler
	Martin Stiksel	N/A	N/A
	Felix Miller	Diesel UK, Freshnet	Insine.net
	Thomas Willomitzer	None	None
	Michael Breidenbruecker	Ravensbourne College of Design and Communication	None

<u>Company</u>	<u>Founders</u>	<u>Work Experience</u>	<u>Startup Experience(As a Founder)</u>
Zynga	Mark Pincus	Lazard Freres, Asian Capital Partners, Bain, Tele-Communications Inc, Columbia Capital	Free Loader, Support.com, Tribe.net
	Andrew Trader	Pandescic	Coremetrics, Tribe.net
	Michael Luxton	NetApp, Euniverse	
	Eric Schiermeyer	N/A	DVDWave, Euniverse
	Steve Schoettler	Go, General Magic, BlueDog, Kontiki	Pivotworks.com
LinkedIn	Justin Waldron	N/A	N/A
	Reid Hoffman	Apple, Fujitsu	Social.net, Paypal
	Konstantin Guericke	Micrografx, Caligari, Beresford Partners, Presenter	N/A
	Allen Blue	Stanford University, Social.net	N/A
	Mark Zuckerberg	N/A	N/A
Facebook	Eduardo Saverin	N/A	N/A
	Andrew McCollum	N/A	N/A
	Dustin Moskowitz	N/A	N/A
	Chris Hughes	N/A	N/A
	Mike Lazerow	Golf.com, Time Inc.	University Wire, Lazerow Consulting
Buddy Media	Kaas Lazerow	GiantStep	Golf.com
	Jeff Ragovin	Digital Impact, Varsity Group, infoUSA, Acronym Media	N/A
	Rony Kahan	Andersen Consulting	Jobsinthemoney
	Paul Forster	Anglo American Corporation, International Finance Corp.	Jobsinthemoney
	Steve Hafner	Marketing Corp of America, BCG, Orbitz	N/A
Kayak	Paul English	APC Systems, Data General, Textet, Interleaf, Intuit, TV Allowance, InterMute, Partners in Health	gethuman.com, World Xiangqi League
OMGPOP	Charles Forman	N/A	N/A
SinglePlatform	Wiley Cerilli	Rocketboard, 24/7 Media, Seamless Web, Aramark Corp.	N/A
Venmo	Andrew Kortina	Carrot Creative, Bitly	WeMusicStore
	Igram Magdon - Ismail	OMGPOP, ticketleap	WeMusicStore
Hunch	Caterina Fake	Salon.com	Flickr, Etsy
	Chris Dixon	Arbitrate	SiteAdvisor
Interclick	Michael Katz	Zefer, Accenture	N/A
Spinback	Dan Reich	Silicon East, Lotame	Runaway Productions, CampusAtlas
	Andrew Ferenci	GoMobo	TheCollegeShack.com
	Corey Capasso	N/A	ExchangeHut, Add the Flavor
Stamped	Bart Stein	Google	N/A
	Robby Stein	Google	N/A
	Kevin Palms	Lightout Investment Partners	uHub
AdMeld	Ben Barokas	RSM Communications, America Online, The Fifth Network, JumpTv	N/A
	Brian Adams	AOL, JumpTV	N/A

<u>Company</u>	<u>Founders</u>	<u>Work Experience</u>	<u>Startup Experience(As a Founder)</u>
Invite Media	Nathaniel Turner	First Round Capital, VideoEgg	Novotrix, CertificateSwap, NowI, OnlinePlugins
	Zachary Weinberg	N/A	NowI
	Scott Becker	N/A	N/A
	Michael Provenzano	Schipul Tech, Rice University	N/A
Instagram	Kevin Systrom	Google, Odeo	N/A
	Mike Kreiger	Microsoft, Meebo	N/A
Jive Software	Matt Tucker	4charity	N/A
	Bill Lynch	4charity	N/A
Yelp	Jeremy Stoppelman	Excite, Paypal	N/A
	Russel Simmons	Paypal	N/A
Yammer	David O. Sacks	McKinsey	Paypal, Geni
	Adam Pisoni	Shopzilla, Geni	Cnation
Wildfire	Victoria Ransom	Morgan Stanley	Access Trips
	Alain Chuard	Salomon Smith, Highland Capital	InFuel, Access
SlideShare	Amit Ranjan	Godrej&Boyce, PepsiCo, AsianPaint	N/A
	Rashmi Sinha	UC Berkeley	Uzanto Consulting
	Jonathan Boutelle	AVS, CommerceOne, Uzanto Consulting	N/A
Funzio	Andy Keidel	Sapient, Meryll Lynch, Mixonic, Adobe, MLB	ModMyLife
	Ram Gudavalli	Mixonic, hi5, ManyMoon	N/A
	Kenneth Chiu	Ebay, Zynga	Idolzr, My Heroes Ability
	Anil Dharni	Ariba, Yahoo, hi5	AnswerU, Storm8

APPENDIX VII – Interview Questions

- 1-** Can you talk about how many applications you get per year, how many of them do you invite for a presentation, how many of them do you invest in, and how many of them returns profit even if it is 1 dollar?
- 2-** Georges Doriot, one of the first venture capitalists said that `An A-team with a B-plan is always better than an A-plan with a B-team`. Do you agree with this proposition?
- 3-** What makes an A-team for you?
- 4-** Can you tell me one of your biggest successes regarding investing in a team that became very successful?
- 5-** Can you tell me a mistake, if any; you did while judging the potential of an entrepreneurial team?
- 6-** What is your take on first generation immigrants that studied here? Do you think they are hungrier for success and do you see a pattern where they are more successful than the US citizens?
- 7-** There are a new breed of VC firms that are blooming especially in the California that are trying to quantify the process of finding the right team before investing by using algorithms. What is your take on this? Can this process be quantifiable, leaving a very small part to intuition?
- 8-** How do you see the future of VC industry? What are the trends that would work in the near future?

APPENDIX VIII – Questionnaire and Results

	<u>Mackey Craven(BVP)</u>	<u>Dustin Dolginow (AV)</u>	<u>Avak Kahvejian (FV)</u>	<u>David Beisel (NV)</u>	<u>Bilal Zubeiri (GCP)</u>	<u>Average</u>
School Attended	0.0	25.0	0.0	5.0	5.0	7.0
Age	5.6	0.0	0.0	10.0	0.0	3.1
Family Background	0.0	25.0	0.0	0.0	0.0	5.0
First Try or Serial Entrepreneur	11.1	15.0	40.0	10.0	25.0	20.2
Single Founder or Multiple Co-Founders	11.1	10.0	0.0	30.0	15.0	13.2
Previous Work/Startup Experience	22.2	10.0	35.0	20.0	25.0	22.4
Domain Knowledge	50.0	15.0	25.0	20.0	30.0	28.0
Citizenship	0.0	0.0	0.0	5.0	0.0	1.0
<u>SUM</u>	100.0	100.0	100.0	100.0	100.0	100.0

	<u>Mackey Craven(BVP)</u>	<u>Dustin Dolginow (AV)</u>	<u>Avak Kahvejian (FV)</u>	<u>David Beisel (NV)</u>	<u>Bilal Zubeiri (GCP)</u>	<u>Average</u>
Passion	30.0	15.0	10.0	15.4	20.0	18.1
IQ/Smarts	5.0	5.0	10.0	11.5	0.0	6.3
Intellectual Honesty	5.0	15.0	0.0	3.8	10.0	6.8
Risk tolerant	0.0	5.0	20.0	7.7	10.0	8.5
Reason/Purpose	0.0	6.0	0.0	7.7	20.0	6.7
Ability to Attract Talent	30.0	15.0	0.0	15.4	20.0	16.1
Authenticity/Uniqueness	10.0	6.0	0.0	7.7	0.0	4.7
Leadership	10.0	6.0	20.0	11.5	20.0	13.5
Self-Awareness	5.0	15.0	20.0	3.8	0.0	8.8
Optimism	5.0	6.0	20.0	15.4	0.0	9.3
Humility	0.0	6.0	0.0	0.0	0.0	1.2
<u>SUM</u>	100.0	100.0	100.0	100.0	100.0	100.0

APPENDIX IX – Scorecard

Extrinsic Values	Founder 1	Founder 2	Founder 3	Founder 4	Founder 5
Age					
Education					
Family Background					
Single Founder or Multiple Co-Founders					
First Try or Serial Entrepreneur					
Previous Work or Startup Experience					
Domain Knowledge					
Intrinsic Values	Founder 1	Founder 2	Founder 3	Founder 4	Founder 5
Passion					
Ability to Attract Talent					
Leadership					
Optimism					
Self-Awareness					
Risk Tolerancy					
Intellectual Honesty					
Reason/Purpose					
IQ/Smarts					
Authenticity/Uniqueness					
Humility					

APPENDIX X – Entrepreneurial Success Factor: Excel Sheet

Extrinsic Values	Points
Age	0
Education	0
Family Background	0
Single Founder or Multiple Co-Founders	0
First Try or Serial Entrepreneur	0
Previous Work or Startup Experience	0
Domain Knowledge	0
X-Factor	0
Intrinsic Values	Points
Passion	0
Ability to Attract Talent	0
Leadership	0
Optimism	0
Self-Awareness	0
Risk Tolerancy	0
Intellectual Honesty	0
Reason/Purpose	0
IQ/Smarts	0
Authenticity/Uniqueness	0
Humility	0
I-Factor	0

Entrepreneurial Success Factor	0
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APPENDIX XI – Thresholds and Weights: Excel Sheet

Extrinsic Values	Weights	Threshold	Weighted Points
Age	0.017	8	0.132
Education	0.036	6	0.216
Family Background	0.026	6	0.156
Single Founder or Multiple Co-Founders	0.067	8	0.537
First Try or Serial Entrepreneur	0.102	5	0.511
Previous Work or Startup Experience	0.112	5	0.561
Domain Knowledge	0.140	6	0.840
SUM	0.500		
X-Factor			2.953
Intrinsic Values	Weights	Threshold	Weighted Points
Passion	0.090	6	0.542
Ability to Attract Talent	0.080	6	0.482
Leadership	0.068	6	0.405
Optimism	0.046	5	0.232
Self-Awareness	0.044	5	0.219
Risk Tolerancy	0.043	5	0.213
Intellectual Honesty	0.034	5	0.169
Reason/Purpose	0.034	5	0.168
IQ/Smarts	0.032	5	0.158
Authenticity/Uniqueness	0.024	5	0.118
Humility	0.006	5	0.030
SUM	0.500		
I-Factor			2.738

Weight of X-Factor	0.6
Weight of I-Factor	0.4

Threshold for Entrepreneurial Success Factor	2.86712
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